PRACTICAL MIDWIFERY

AND

OBSTETRICS.

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INCLUDING ANÆSTHETICS.

BY

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DEDICATION.

THIS work is dedicated by the Author to the following eminent Physicians of Great Britain and Ireland in admiration of their talents, professional attainments, and profound knowledge in the Science of Midwifery, Obstetrics, and the Diseases of Women.

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PREFACE.

THE object of this work is to afford to the accoucheur, in as concise a form as possible, compatible with clearness of description and practical utility, a complete Guide and Handbook to Midwifery and Obstetrics. By its aid the student will be enabled to go to the bedside of the Lying-in for the *first time* with perfect confidence in himself, and without the fear of being considered an amateur, either by nurse or patient. The qualified practitioner, by reference to its pages and diagrams, can, in a minute or two, refresh his memory and undertake the most difficult obstetric case with its attendant consequences and complications.

The work contains everything of importance that is to be found in other books on the subject, and is supplemented by facts and incidents experienced by the author during an extensive public and private practice.

It has scarcely been considered necessary to touch upon the Anatomy and Physiology of the Organs of

Generation, the author deeming it better to treat of Midwifery almost exclusively, in as practical and exhaustive a manner as possible.

As regards the Illustrations, some are modifications; but many of them are the original production of the author, portraying conditions which have actually occurred in the various cases which have come under his notice.

The author's chief desire has been to make the study of Midwifery more exact as a Science, and his hope is that the student will find it easy to acquire by the aid of these pages.

ALFRED HOUSE, NEWINGTON CAUSEWAY, LONDON,
January, 1871.

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* I am indebted to the courtesy and kindness of Dr. Marion Sims for the use of this Engraving.—"Uterine Surgery." London: Hardwicke.

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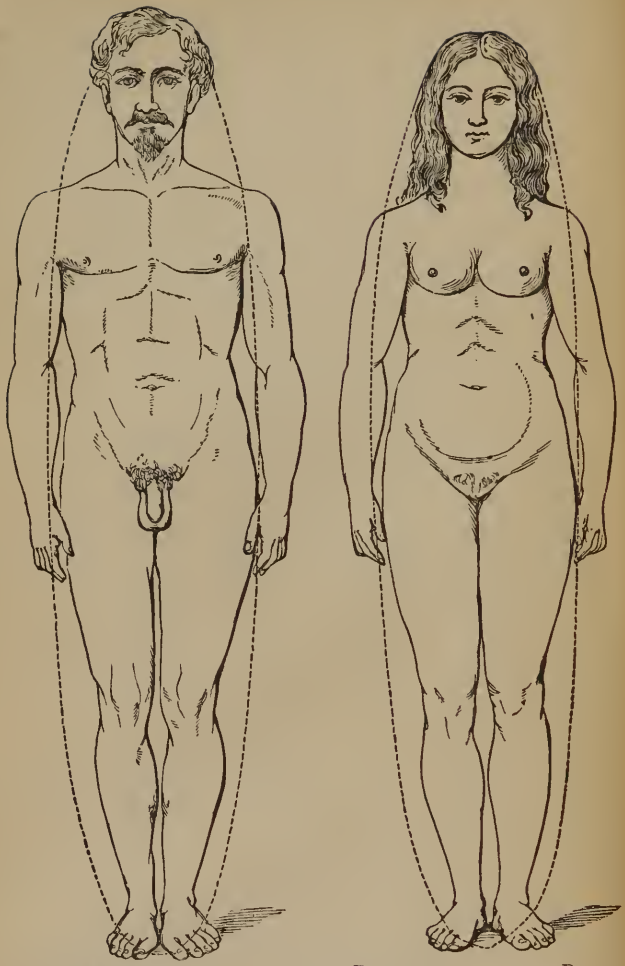


DIAGRAM SHOWING THE RELATIVE PROPORTIONS OF THE PELVIS IN THE LIVING MALE AND FEMALE SUBJECTS.

MANUAL

OF

MIDWIFERY AND OBSTETRICS.

CHAPTER I.

SYMPTOMS OF PREGNANCY.

THE ordinary ages between which healthy females may be said to be capable of conception and child-bearing are from fifteen years to forty-five years, both inclusive; and although cases do occur prior and subsequent to those ages, they are exceptional.

When a woman becomes pregnant, her general condition undergoes a great change: she is more plethoric, the pulse is fuller and quicker, the quantity of circulating fluid is augmented, and the quality of the blood is altered by an increase of fibrine; consequently there is a prevalence of the

buffy coat in it when blood is drawn under such circumstances, and the skin often becomes sallow or discolored.

Symptoms of Pregnancy.

There are certain signs or symptoms which always, more or less, accompany and succeed the act of conception, and these may be divided into two classes, viz.:

I.—Rational Signs.

II.—Sensible Signs.

The RATIONAL SIGNS comprise:

(1) *Morning Sickness.*
(2) *Cessation of the Menses.*
(3) *The Enlargement of the Breasts.*
(4) *Quickening.*
(5) *Condition of the Urine.*
(6(*Salivation* (occasionally).
(7) *Capricious Appetite.*
(8) *Discoloration of the Vagina.*

The SENSIBLE SIGNS are:

(1) *Enlargement of the Abdomen.*
(2) *Ballottement.*

(3) *Condition of the Cervix Uteri.*
(4) *Pulsation of the Fœtal Heart.*
(5) *Placental Bruit.*
(6) *Movements of the Fœtus.*

We shall first review the symptoms included in—

I.—Rational Signs.

And most prominent among these is—

(1) *Morning Sickness.*—This usually commences about a month after conception, and is felt most acutely by the patient on rising from her bed in the morning; it may occur at any hour in the day, and appears to be especially excited at the sight of food. As a rule, the sickness is a relief rather than otherwise, when it lasts only for a few minutes; but it becomes almost unbearable when attended for a long time with a peculiar deadened, sinking feeling, like sea-sickness; and in some cases it becomes so serious that it is found absolutely necessary to relieve the uterus by procuring abortion. It may come on a few hours after conception, and last only a few weeks, or continue during the whole period of pregnancy, but it generally abates or ceases when the patient quickens.

(2) *Cessation of the Menses or Amenorrhœa.*—This symptom, when taken in combination with the others, is most important; but, taken by itself, it frequently proves delusive and fallacious, as many causes of a local or constitutional character may influence them. Pregnant women are not unfrequently regular for some months after, and occasionally even during the whole period of gestation. On the other hand, young women (both single and married) frequently have the catamenia absent for several consecutive months, under circumstances utterly precluding the idea of pregnancy. I have known cases occur in which the patient has become pregnant before she had even commenced to menstruate.

(3) *Enlargement of the Breasts.*—Often during the first few days, but generally after the first month, these glandular organs manifest signs of vital activity. They get larger, feel knotty, and there is a sense of aching or tingling; the *areola* round the nipple gets darker, the little *follicles* in it become excessively developed, and a small quantity of fluid may be squeezed from the nipple. The breasts often increase in size during the period of menstruation, and are then generally

tender. They are similarly affected when the uterus contains tumors, etc.

(4) *Quickening.*—This term implies the sudden rise of the pregnant uterus from the pelvis into the abdomen, followed by the movements of the fœtus. It usually occurs between the third and fifth month, and is generally accompanied, more or less, by a sensation of fainting.

(5) *The Condition of the Urine.*—During pregnancy the urine presents peculiar conditions, especially after being allowed to stand for two days, a careful analysis detecting the presence of a peculiar substance analogous to casein (identical with the casein contained in the milk found in the breast during the period of gestation), and which has received the name of KIESTEINE. It is found either floating on the surface, like particles of wool, or becomes a sedimentary deposit of white, flaky, pulverulent, grumous matter.

(6) *Salivation.*—This symptom is, happily, of unfrequent occurrence in pregnancy. When it does make its appearance, it may be directly traced to nervous irritability of the salivary

glands; and is distinguishable from mercurial ptyalism by the absence of fetid breath, sponginess and tenderness of the gums.

(7) *Capricious Appetite* is often associated with pregnancy. I have known cases in which the patients have eaten as many as a dozen lemons in a day; others live upon fruit for weeks together. In fact, the whims and fancies of the patient during the period of gestation are as varied and erratic as they are peculiar. It will be as well, however, not to deny the patient her special gratification, as the desire is generally for some article of diet that may be granted with safety.

(8) *Discoloration of the Vagina, Jacquemier's Sign.*—This symptom is inseparable from conception, and makes its appearance after the conclusion of the fourth month. It presents a peculiar dusky color, and probably arises from obstructed return of the venous blood.

The second and more important division of our subject is comprehended in—

II.—The Sensible Signs of Pregnancy,—

which are thus enumerated:

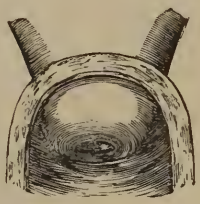
(1) *Enlargement of the Abdomen.*—This is the most noticeable symptom, and begins about the commencement of the third month. The enlargement is equable on all sides, commencing centrally and gradually enlarging until the termination of the period of gestation. The abdomen feels elastic, is firm, well defined in its outline, and is not lobular. Besides, on percussion the most prominent part of the tumor is dull, whilst, if the patient lie on her back, percussion will elicit a clear sound all round and behind the tumor, where the bowels are situated, in consequence of their containing air.

Swelling of the Abdomen may take place in ascites, enlarged liver or spleen, ovarian dropsy, tympanitis, and fecal accumulation in the colon.

(2) *Ballottement.*—This sign is especially valuable, inasmuch as it proves the existence of some body or substance floating in liquid in the cavity of the uterus. To ascertain this fully and satisfactorily, the patient should stand upright; the practitioner must then introduce his left hand into the vagina, and place his right hand upon the abdomen, over the uterus, giving the os uteri a sudden lift with the left forefinger upwards. If a fœtus be present, it will be jerked so as to rise in

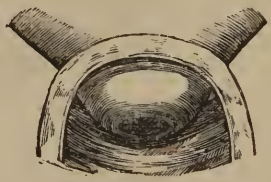
the liquor amnii, and come suddenly down, and rebound twice or thrice in succession, in consequence of its floating in fluid. Ballottement is of no use until after the fifth month of pregnancy.

(3) *Condition of the Cervix Uteri.*—In its virgin state, it is hard, small, and pointed. After im-



Condition of the Cervix Uteri at Three Months.

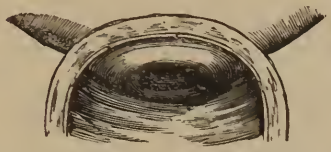
pregnation, it becomes softer and larger, and the transverse slit more open. In the second month of



Condition of the Cervix Uteri at Six Months.

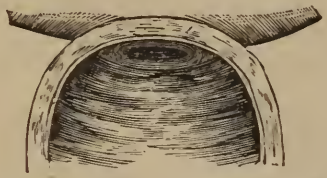
gestation, it descends, and is ringlike in shape; the edges lose their liplike figure, smooth in the primi-

paræ, and rugged in the multiparæ. As pregnancy advances, the cervix becomes shorter, higher up,



Condition of the Cervix Uteri at Eight Months.

pointing to the upper part of the sacrum, and at last becomes a mere smooth globular mass, with a ring in its center.



Condition of the Cervix Uteri at Nine Months.

(4) *Pulsation of the Fœtal Heart.*—An examination, subsequent to the *fifth* month of pregnancy, on the sides and front of the tumor, will not fail to elicit the sounds of the fœtal heart, if it be living. The pulsations are generally about 150 per minute, and very much resemble the tick of a watch under

the pillow; being quite independent of, and distinct from, the maternal part of the circulation. The fœtal heart is most distinctly heard in about the middle or inferior abdominal region, more frequently on the left than the right side.

(5) *Placental Bruit and Uterine Souffle.*—Sounds in the placental and uterine circulation may usually be distinguished after the fourth month, low on the sides of the abdomen. It is a peculiar blowing sound, corresponding to the maternal pulse, and is called the *placental soufflet.*

(6) *Movements of the Fœtus.*—The fœtal movements are, in ordinary cases, perceptible after the *sixth* month; and can be felt distinctly by placing the cold hand over the fundus uteri. These movements are, however, sometimes simulated by the contractions of the abdominal muscles and the movement of flatus.

CHAPTER II.

THE DISORDERS OF PREGNANCY AND THEIR TREATMENT.

Morning Sickness

Is best treated with saline aperients and an acid-bitter tonic, or effervescing medicines combined with prussic acid. It is sometimes, though seldom, necessary to procure abortion to relieve the symptoms, which are generally worse in primiparæ; distressing sickness usually abates after the period of quickening.

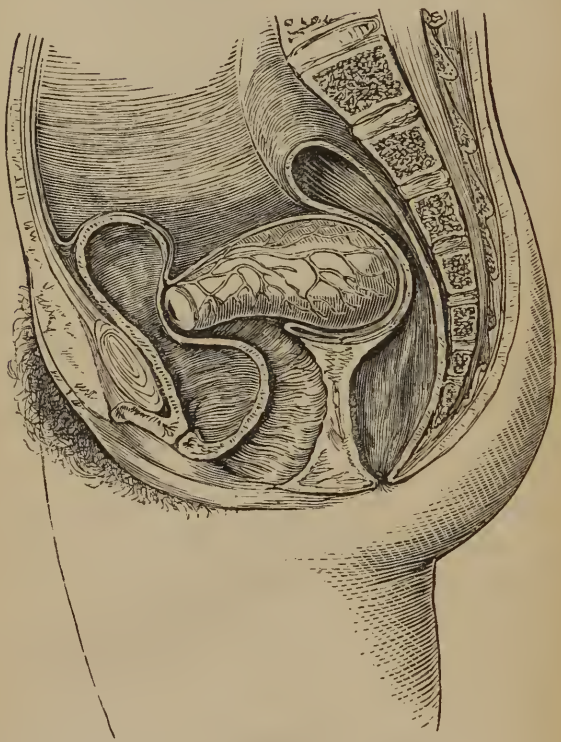
Heartburn and Acidity

Require similar treatment to Morning Sickness. Warm chamomile-tea, with salt in it, will act as a mild emetic, and give relief, by ridding the stomach of the acid matters, bile, etc. contained in it.

Obstinate Constipation.

This can only be counteracted by mild aperients and a light diet. It generally passes off after the fœtus is felt by the mother,—*i.e.* after the uterus

has risen from the pelvis. I was once obliged to bring on labor in a case in which nothing had



Section showing complete Retroversion of the Uterus, and consequent Pressure on the Rectum.

passed the rectum for seven months—everything was vomited; food and fecal matter both passing

upwards. When the uterus was emptied, relief was at once given to the sufferer.

Retroversion of the Gravid Uterus

Takes place when the fundus presses downwards and backwards into the hollow of the sacrum, and the os is tilted forwards and upwards, behind and even above the symphysis pubis: it generally happens during the early period of gestation and before the time of quickening. It is usually the result of the sudden action of the abdominal muscles upon the uterus, as in sneezing, coughing, and straining, when there is a full bowel or bladder. The fundus uteri prevents the passage of fæces by pressure upon the rectum, and produces an accumulation above. The os uteri, pressing upon the bladder, causes retention of the urine, and the bladder becomes exceedingly distended, and pulls the os up to a still greater extent.

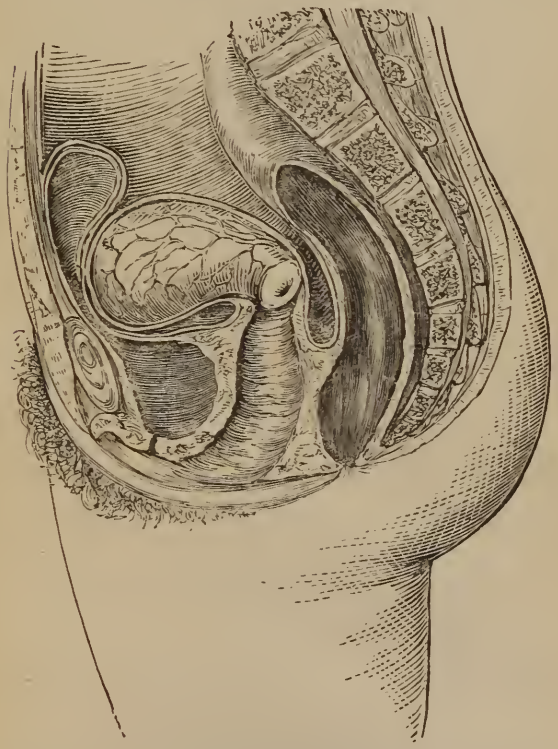
The *Symptoms* are distressing bearing-down pains, fullness, and weight in the loins, and a dragging or tearing feeling in the groin, with an inability to pass urine or fæces. On examination, the finger is stopped by a *cul-de-sac* of vagina, behind which (that is, in the recto-vaginal pouch) is felt a large, solid, globular mass (the fundus),

filling up the bottom of the sacrum, while the os uteri is only to be felt with difficulty above the symphysis pubis. Per rectum, the fundus is felt, as before stated, pressing in front of the bowel.

Treatment.—Introduce an elastic male catheter into the bladder, and draw off the urine; empty the rectum by enemata. This is sometimes sufficient to cause the uterus to return to its proper position. If not, press up the fundus by the introduction of two fingers into the bowel, and hook down the os uteri with a finger of the other hand, placed in the vagina. It is, however, sometimes necessary to introduce the whole hand into the vagina, to move the fundus, which has been jammed down in the pelvis, with an accumulation of fecal matter above, in the rectum,—the hand at the same time straining the anterior wall of the vagina, and bringing down the os uteri. Everything failing, we may have recourse to tapping, and so draw off the liquor amnii, and diminish the size of the uterus by getting rid of some of its contents.

Anteversion of the Gravid Uterus.

This is the oppositite condition to Retroversion, and is of very rare occurrence. It causes retention of urine, and the other pelvic symptoms are much



Section showing the Anteflexion of the Uterus, and consequent Pressure on the Bladder.

the same as in Retroversion; but there is no obstruction to the passage of the fæces along the rectum. It is never the result of a full bladder or distended bowel, but is caused by the sudden action of the muscles of the abdomen.

Without any treatment, anteversion is frequently overcome as pregnancy advances. To clear out the bowel, empty the bladder, and keep the patient in bed for a few days, will generally be found sufficient to restore the uterus to its normal condition; though, in some cases, it may be requisite to press the fundus upwards and backwards, and draw the cervix downwards.

Anteflexion

Happens when the organ becomes bent upon itself at the union of the cervix with the body of the uterus. As pregnancy advances, the uterus returns to its normal position. It therefore requires no treatment.

Retroflexion

Is the opposite condition to anteflexion, and when it is associated with pregnancy it is a frequent cause of secondary hemorrhage, and the involution of the body and fundus of the uterus is

prevented, and the return of blood is impeded, by the flexion at the cervix.

DIAGNOSIS.—By examination with the finger in the vagina, the fundus will be found bearing down behind the cervix, forming a tumor between it and the rectum.

Treatment.—Return it to its proper position by the assistance of the uterine sound, and keep it in place with a large Hodge's pessary. If it be attended with much bleeding, inject the perchloride of iron into the uterus.

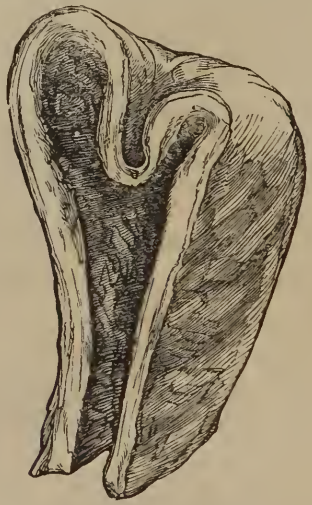
Inversion of the Uterus, or the Turning of the Womb inside out.

This is a very distressing complication, fortunately rather rare; and always attended with considerable risk to the patient. When there is complete inversion, the fundus uteri descends through the os, the cavity of which is lined by the peritoneum; it is open upwards towards the abdomen, contains the ovaries and Fallopian tubes, and the original lining membrane of the womb becomes its external covering.

Inversion has been known to exist in women who have never borne children; in such cases it arises from tumors growing from the fundus uteri,

down through the os, dragging the attached portion of the womb with it. When this condition is discovered, it is called *chrŏnic* inversion. The proper treatment, of course, is the removal of the cause (which is the tumor), and the replacing of the uterus to its normal state. This is generally attended with considerable difficulty. Excision of

INVERSION OF THE UTERUS.—FIRST STAGE.



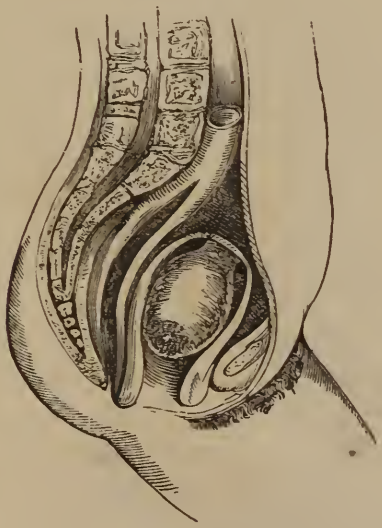
This Diagram represents the Depression of the Fundus in the Cavity of the Uterus.

the uterus is sometimes had recourse to, but the operation is attended with very great risk.

There are three degrees of Inversion:

1. Depression of the Fundus within the Cavity of the Uterus.

2. Partial Inversion, when the Fundus of the Uterus is brought down into the Vagina, forming a tumor of a hemispherical form, impacted in the os uteri.



This Diagram represents Complete Inversion of the Uterus.

3. Complete Inversion, when the Uterus will be found filling the Vagina, and perhaps protruding outside.

In the first state of depression, the uterus can be felt above the pubes; but, instead of being round, it is cupped at the fundus. In the partial and complete Inversion, the uterus cannot be felt above the pubes.

Inversion may be acute or chronic. In the former, it occurs after labor; in the second, it is often the result of polypi or tumors; although it might have existed from some prior accouchement, and so gone on increasing from secondary consequences. The most frequent causes of acute Inversions are—dragging at the funis before the placenta has become detached, shortness of the cord, or by the cord coiling round the baby's neck.

Symptoms.—These are sudden exhaustion or sinking; the face becomes deadly pale; the voice weak, pulse small, rapid and fluttering; vomiting comes on, and the patient is threatened with death. She often imagines there is a second child. There is frequently alarming hemorrhage—sometimes none at all. When the hemorrhage is great, death takes place, attended with convulsions.

Treatment.—It should be replaced immediately; delay in restoring it to its normal position, even for a few hours, only increasing the difficulty of pushing the tumor past the perineum, as a consequence of

its strangulated and swollen condition. As soon as this is done, the uterus will spring back into its proper place with a kind of jump. The tumor must be squeezed firmly between the hands, and the fundus pushed up into the pelvis through the vagina, by the assistance of the fingers, placed so as to form a cone. If the placenta be adherent to the uterus, return it with it: this, however, is sometimes found to be impossible, in which case its separation is the only alternative. When the uterus is again in position, the hand should be kept in its cavity until expelled with the placenta by the contraction of the womb.

Diarrhœa

Arises from an increased flow of bile; and relief will be generally experienced from a blue pill, followed by a saline aperient or castor oil. Sometimes, however, astringents are required; such as chalk mixture, with catechu and chloric ether, Dover's powder, aromatic confection, etc.

Toothache

Is one of the most frequent disorders of pregnancy, and is generally relieved by aperients, followed by quinine or iron. If one tooth be extracted, another will probably begin to ache. There is a little risk in extraction, from its sometimes causing abortion, in consequence of the shock given to the system. When the toothache is very persistent, I consider it advisable to get rid of it, as the constant pain wears the patient out.

Cough and Palpitation.

The cough accompanying pregnancy is often very distressing, and is generally attended with considerable expectoration, which, in spite of medicine, continues to the end of gestation. The best treatment consists in giving mild aperients, effervescing draughts, and a soothing cough mixture. *Palpitation of the Heart* is often alarming to the patient, and is attended with a great dread of something happening. The least thing affects the patient; such as anything sudden, noises, etc. Give a mixture containing tincture of henbane, ammonia, and camphor-water, and prescribe some gentle laxative. Unless care be taken, this nervous

condition is liable to be attended with an unsatisfactory result, by ending in abortion or premature labor.

Œdema and Varicose Veins in the labia are occasionally associated with pregnancy. Rest and aperients afford considerable relief. When labor comes on, it may be necessary to prick them in the former, and in the latter to deliver with the forceps in case of rupture with much hemorrhage.

CHAPTER III.

PARTURITION.

EFFLUXION is the casting out of the ovum from the uterus before its viability, or before the embryo and secundines are formed, when nothing but the liquid conception or genitura is discharged; this differs but little from profuse menstruation. My late teacher, M. Velpeau, has described an ovum of fourteen days, and its size did not exceed that of an ordinary pea, of which the following is a representation:

AN OVUM FOURTEEN DAYS AFTER CONCEPTION.

The earliest Ovum on record, described by M. Velpeau.

Miscarriage

Signifies the expulsion of the embryo from the womb within six weeks after conception.

Abortion

Is the expulsion of the fœtus from the uterus between six weeks and six months after conception, —the period *before* its legal viability, *i.e.* before it is capable of maintaining a separate existence.

Premature Labor

Signifies the casting-out of the child from the womb *after* its legal viability, at any period beyond six months after conception.

The Fœtus

Is the child in utero, after the fourth month. At an earlier period it is designated the Embryo.

The age, weight, and length of the fœtus are enumerated below.

At the end of Month.	Weight.	Length.
1	—	½ in.
2	—	1½ in.
3	—	2½ in.
4	3 oz.	5½ in.
5	6 oz.	6 in.
6	1 lb.	9 in.
7	3 lbs.	13 in.
8	4½ lbs.	15 in.
9	6 lbs. to 8 lbs.	16–20 in.

The heaviest child I have ever known at birth weighed 14½ lbs.

Causes of Miscarriage, Abortion, and Premature Labor.

These are numerous and extremely varied in character, including almost everything that would act injuriously on the mother's health, and, through her, on the embryo or fœtus. The most frequent are fright, violent passions and mental emotion, syncope, intense pain, diarrhœa, tenesmus, violent purgation, the use of ergot of rye, over-fatigue from walking, straining, or any external violence to the womb, the discharge of the liquor amnii, tumors in the womb, inflammation, impaired nutrition, or the *exanthemata*. These influences either destroy the child's life, as in syphilis, syncope, and mercurial salivation, or they cause the uterus to contract, or they produce hemorrhage between the placenta and the womb, which interferes with the circulation and the nutrition of the placenta, and so cause the death of the fœtus.

The *Symptoms* of Abortion are pains of an expulsive character, attended with hemorrhage; and the later the period after conception the greater will be the danger from the violence of the symptoms. The causes of abortion are divided into two classes,—1. Maternal. 2. Fœtal.

The Maternal Causes of Abortion.

These may be divided into seven sections, viz.:

1. Local causes; such as cancer, fibroid tumors, polypi, inflammation, retroversion, and the presence of abdominal tumors.

2. Nervous conditions; viz., shock, want of nerve force from incessant vomiting, and mania.

3. In consequence of an irregular supply of blood, as in heart disease, etc.

4. Diseases which impoverish the blood—as, nursing too much, anæmia, and persistent vomiting.

5. Poisons in the blood; as in fever from syphilis, poisonous metals and gases, and albuminuria.

6. When artificially induced.

7. A *previous* abortion will often cause the uterus to throw off the fœtus at the same period.

The Fœtal Causes of Abortion

Are seven; viz. (1) Malformation, or disease of some part of the fœtus; (2) torsion of the umbilical cord, or anything that would cause the death of the fœtus; such as (3) fatty or (4) hydatid degeneration of the chorion or placenta; (5) inflammation or congestion of them; (6) apoplexy; or (7) fibrous deposits in the chorion or placenta.

A dead fœtus will decompose to a greater extent in three days after the liquor amnii has escaped than it would in thirty days, had the liquor amnii been retained. It is a very rare thing to see the fœtus precede the exit of the involucra before the third month; or for it to come enveloped in them after four months. It is not advisable to rupture the membranes prior to the completion of the fifth month; as it is only after that period that it will have the desired effect of checking the hemorrhage. If attempted before that time, it would only, in all probability, prolong the flooding.

When a patient has once miscarried, it frequently happens again at the same period in succeeding terms; it is of the highest importance, therefore, that she should be carefully watched, kept from all mental and physical excitement, and take as much

rest as possible, *in a horizontal position*, during that critical period, and for some time afterwards, until all danger is over and the causes that originally gave rise to the misfortune are effectually removed.

The *Treatment* consists in the prevention of the expulsion of the fœtus, and so permitting the female to go on to the full period of gestation; but should this be hopeless, it is then expedient to remove the ovum as speedily as possible, and so prevent further hemorrhage.

The Preventive Treatment.—If the patient be plethoric and inflammatory, with a full bounding pulse, a little bleeding will often give relief, if followed with mild aperients combined with a sedative. The patient should be put on *low diet* for a few days, and use cold applications to the pubes, rest in bed, and cautioned to avoid stimulants as much as possible.

In *anæmic* cases, give a nourishing but mild diet, and avoid hot drinks. An acid mixture with a sedative, and perfect rest, are the best remedies.

Should hemorrhage come on or continue to an injurious extent and the ovum be retained, it must be hooked down with the finger or with a pair of polypus-holders, assisted by the administration of full and frequent doses of ergot of rye and a smart

and plentiful injection of water. The patient's strength should be supported with beef-tea, brandy, milk, raw eggs, etc.

The Duration of Pregnancy

Is 40 weeks, or 280 days; though it has been known occasionally to extend to 300 days. When the accoucheur enters the case upon his list, he should calculate when the delivery might be expected, dating at 280 days from the expiration of the last menstruation. Many accoucheurs reckon nine months from the last menstruation, but it must be remembered there are no nine months with 280 days.

Mole Pregnancy.

(1) FALSE
(2) GENUINE.

(1) *False or Spurious Moles.*—These are discharged—consisting of masses of squamous epithelium, when expelled from the vagina; and of fibrinous collections, if from the uterine cavity; and there is a membranous product occasionally discharged in cases of dysmenorrhœa.

The Flakes, or tubular pieces of squamous

epithelium exfoliated from the vagina, are easily recognized.

The *fibrinous masses* from the womb are like an almond in size and shape, being to some extent casts of the uterine cavity. Externally, they are smooth, and they have a very imperfect central cavity.

The *Dysmenorrhœal* product is nothing more or less than exfoliated uterine mucous membranes. When entire, it has a shape resembling the cavity of the uterus, is rough externally and smooth within, with a distinct triangular cavity, and, when discharged from the nulliparous uterus, it has two openings above and one below, at the sites of the Fallopian tubes and the canal of the cervix uteri.

In the multiparous organ the dysmenorrhœal bag is ovoid in shape. In these cases there are no traces of funis, membranes, or fœtus.

(2) Genuine Moles are the result of impregnation; and generally depend upon carneous, hydatiginous, or fatty degeneration of the membranes. They consist of very large masses; and, in many cases, no traces of the ovum can be found.

The *Carneous* or *Fleshy Mole* is formed of semi-organized coagula and layers of fibrine.

The *Hydatid Mole* is the form in which the fœtal coverings, especially the chorion, have become developed into vesicles resembling large bunches of white grapes or currants.

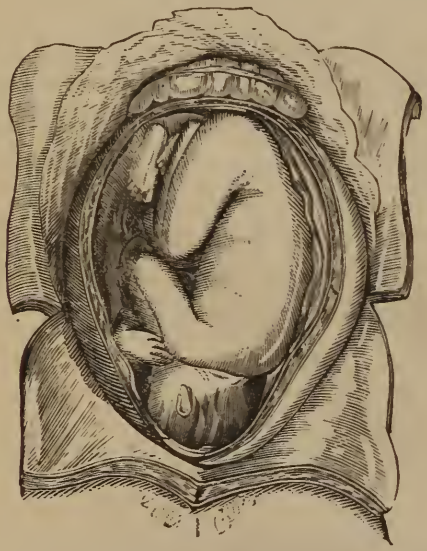
Fatty Degeneration often takes place to an extent sufficient to destroy the embryo, and is generally expelled a fortnight or three weeks after its death.

When the womb contains a mole, the earlier symptoms of pregnancy are present, with frequent attacks of hemorrhage—and sometimes water, when hydatid. The patients complain of being too much unwell and too *frequently* so, although they say they know they are pregnant. But the latter signs, such as the fœtal movements, sounds of the fœtal heart, and ballottement, are absent. After a variable time, all the symptoms of abortion set in, and the mole is expelled—generally with considerable hemorrhage.

It is sometimes necessary in these cases to dilate the uterus with tents, and bring away its contents, —when the hemorrhage is very profuse, or the health giving way.

Labor,

The mechanism of which consists of—1, the expelling power; 2, the body to be expelled; and 3, the parts through which it has to pass,—is the expulsion of the child from the womb by means of



Natural Position of the Fœtus within the Uterus at the full Period of Gestation.

uterine contractions, assisted by the muscles of the abdomen and the diaphragm; the premonitory symptoms of which are—the sinking down of the

uterus, giving rise to easier respiration; a slight discharge of red-colored mucus from the vagina, called a *show;* irritability of the bladder and rectum; and pains, with intervals of rest. The action of the uterus is involuntary, and consists of the contraction of the fibers imbedded in its structure, which forms its peculiar parenchyma; these fibers traverse the uterus in all directions, and by their contraction the ends of them are drawn nearer together, so that their length is diminished and their thickness increased, the uterine cavity is thereby diminished, and its internal membrane is brought into forcible contact with its contents; by their contraction pressure is exerted, propulsion is produced, and expulsion of the child and placenta effected.

CHAPTER IV.

THE ACCOUCHEMENT.

When called to attend a case, promptitude in attendance is of the first importance, as, in the event of the visit being delayed, four circumstances might take place:

1st. A rapid confinement, without any professional aid.

2d. The death of the mother or of the child, as a direct consequence of the absence of skilled aid —the former from hemorrhage, and the latter from suffocation.

3d. The sacrifice of the most suitable and only favorable period for relieving unnatural presentations.

4th. The introduction of another medical man into the family, in consequence of your non-attendance.

Instruments and Drugs.

In ordinary practice all that would be required is a Pocket Midwifery Case, containing blunt-pointed scissors, long pins, silver and elastic catheters, silk thread, Liq. Ergotæ, P.B.; Liq. Opii, Sed.; Sp. Ammon. Aromat.; Ol. Terebinth., and Ol Ricini.

In extraordinary and critical cases it is always advisable to have a bag filled with the following instruments, placed where they can be easily found at home, if sent for in a hurry; if the case be at a distance, it would be as well for the practitioner to take the Midwifery Bag in the carriage—comprising: long and short forceps, crotchet, craniotomy forceps, cephalotribe, perforator, blunt hook, enema apparatus, an inhaler, stethoscope, and an anæsthetic spray producer, with chloroform and anæsthetic ether, s. g. ·0723.

The Patient's Room.

It is of the utmost importance to be quiet in your manner and gentle in your movements, both for your own comfort and for the patient's benefit. Take a chair beside the patient's bed, question her affably about her pains, the period when they first

came on, the length of the intervals between them, when the bowels were last opened, and whether there has been any show. Also notice for yourself when the pains come on, and whether they are long or short. A short pain, without change of feature or alteration of voice, generally denotes the first stage; whilst long pains, with a loud and continued scream, are indicative of the second stage of labor.

Duration of Labor.

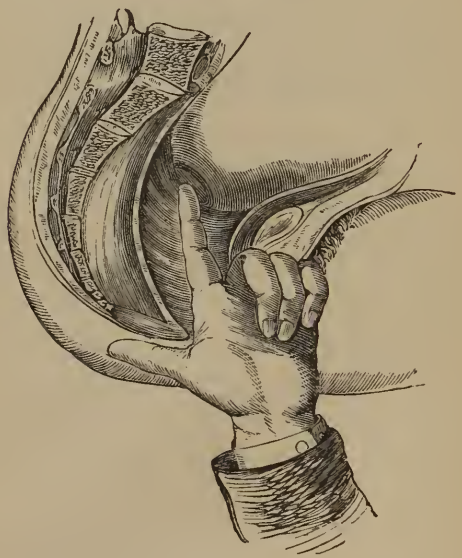
From an analysis of about 5000 cases of Midwifery, I have found the period of natural labors in primiparæ to extend to twenty hours, and in multiparæ about ten hours from the commencement of the first pain. Age exerts a considerable influence: when over thirty the patient will probably be twice as long in labor, in consequence of the rigid state of the parts.

Examination of the Uterus.

It sometimes happens, in primiparæ especially, that the patient objects to undergo the necessary examination. You will, therefore, in such cases, be compelled, firmly but gently to demonstrate your object in doing so; viz., to ascertain whether

her case is straightforward, what length of time will expire before her delivery, etc.

Place the patient upon the bed, on her left side; with her head rather low and her knees drawn up



The Examination of the Uterus in the Early Stage of Labor by means of the Index Finger of the Left Hand.

towards her abdomen, her body arched and her feet placed against the footboard of the bedstead, to the end of which a twisted towel should be attached, for the patient to pull. Then apply a

little lard or oil to the fingers of the left hand, and proceed to the examination, assuring her that it will cause but little pain.

In this examination the utmost care must be taken to introduce the index finger gently into the vagina, and *not* into the rectum (which I have known to be carelessly done, to the confusion of the practitioner and the disgust of the patient). To prevent this unpleasant mistake, place the hand well forward upon the mons Veneris with three fingers open, then draw it downwards, and you cannot possibly fail to enter the vagina.

Among the upper and middle classes, you will usually find the patient already prepared, wearing a night-dress or dressing-gown; while the poorer classes are usually attired in their ordinary daily clothing. Under any circumstances, however, the greatest care must be taken to avoid unnecessary exposure.

It is usual to examine during a pain (commonly called "*trying a pain*"); but it is as well to continue the examination after the pain is over, so as to form a correct diagnosis of the case in all its bearings.

The greatest care must also be taken not to rupture the membranes at too early a period, as,

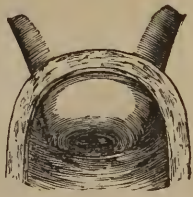
by so doing, the labor would be materially retarded, and, as a natural consequence, the patient's pains prolonged and her strength more exhausted.

During a pain, the membranes and uterus are tense; after the pain, they become flaccid, and the presenting part is more easily felt.

In order that the student may be better enabled to judge of the condition of the patient, and form an accurate diagnosis of the case before him, I append a description (accompanied by an illustration) of the changes which the uterus presents at the several periods during pregnancy:

1*st Month.*—Os and cervix soft and cushiony; the os is oval, and the transverse liplike fissure (which is so essentially characteristic of the virgin state) has entirely disappeared.

2*d Month.*—The cervix has increased in size; the os is lower in the pelvis, and closed; in primi-



This Diagram represents the Condition of the Cervix Uteri at the Third Month of Pregnancy.

paræ round and smooth, in multiparæ irregular and uneven, the posterior lip being elongated.

3*d Month.*—The os uteri is not so easily reached; the uterus having risen above the brim of the pelvis.

4*th Month.*—Fundus about three fingers' breadth above the pubes; can only be felt, in a thin person, when the abdominal muscles are relaxed and the bladder empty.

5*th Month.*—Cervix shorter. Fundus midway between pubes and umbilicus. Fœtal heart can be heard from this period to the end of gestation.

6*th Month.*—Cervix only half its normal length; fundus even with umbilicus; fovea umbilici dilating. The fœtus can be distinguished by ballottement, from this month to the end of pregnancy.

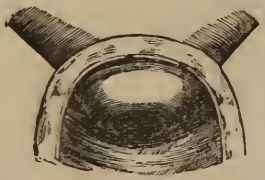
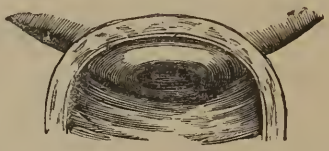


Diagram showing the Condition of the Cervix Uteri at the Sixth Month.

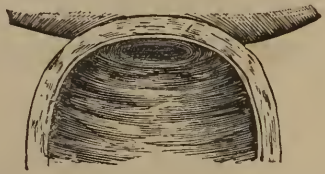
7*th Month.*—Cervix considerably shorter; fundus above the umbilicus, which now slightly protrudes. The movements of the child through the abdominal parietes are easily perceived.

8th Month.—Cervix not more than a quarter of an inch long; fundus midway between umbilicus and scrobiculus cordis.



The State of the Cervix Uteri at the Eighth Month.

9th Month.—The cervix has nearly disappeared; fundus up to the scrobiculus cordis. Breathing oppressive. Retention and passage of urine difficult. Patient very unwieldy in carriage and depressed in mind.



This Diagram represents the Condition of the Cervix Uteri at the Ninth Month of Gestation.

10th Month.—A circular dimple in the lower and posterior portion of the uterus, corresponding with the upper part of the hollow of the sacrum, marks the os uteri, which remains closed until the—

Commencement of Labor.

At this period the fundus usually sinks forward as labor approaches; this allows the diaphragm again to act more freely; the os is high up against the upper part of the sacrum, and the patient moves and breathes with greater ease. The child sinks deep into the pelvis. There is some slightly-colored mucous discharge from the vagina, called a *show*, and increased irritability of the bladder and rectum. Then regular pains succeed, which are the result of uterine contraction.

The Objects of the Examination are:

1st. To discover, from the state of the os and passages, whether the patient is pregnant or not; for it frequently happens that women deceive themselves in this respect. I have known it to occur many times, and for them to go so far as to engage doctor and nurse. Therefore, make certain the female is pregnant.

2d. Whether the patient is in the first or second stage of labor.

3d. Whether the presentation is natural or unnatural, and to ascertain the existence or non-existence of any other difficulty or obstacle to the

proper progress of the labor or delivery; such as a tumor, a deformed pelvis, etc.

4th. Whether the patient can be left with safety for a few hours—a matter of great importance to a gentleman having a large practice, or being a long distance from home.

Condition of the Passages.

The most favorable conditions possible for a quick labor are, an empty rectum; a large pelvis; the os and vagina easily dilated and more moist than usual with mucus. The os is higher up and farther back in primiparæ, insomuch that it is with difficulty it is reached at the commencement of labor.

Labor-Pains.

Labor-pains are of two kinds, spurious or false, and true.

False pains come and go irregularly, or continue producing a pinching sensation; but they have no effect upon the uterus and kindred organs. An aperient is generally required; a full bowel, by pressure, irritates the uterus, and causes spasm in it.

True pains are situated in the abdomen, back, and loins, at first of a cutting or grinding character

and very painful. They come on and go off at regular intervals, and become of a dull, heavy, forcing character as labor advances.

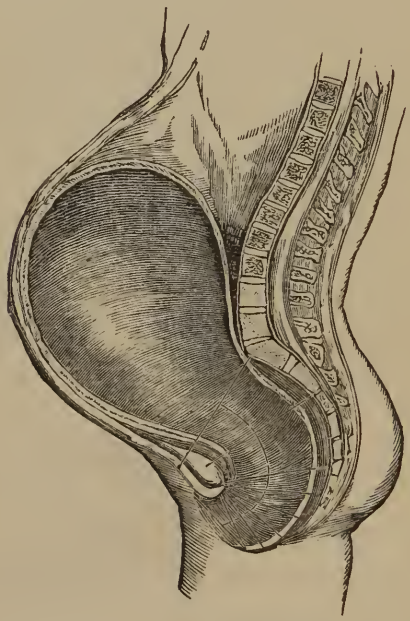
Other Signs of Labor.

The hardness of the fundus and tensity of the os and membranes correspond exactly with the pains, and are attended with a frequent desire to micturate; a show takes place, and there is a perceptible dilatation of the os uteri.

The Three Stages of Labor.

The First Stage of Labor comprises the complete dilatation of the os uteri, which is accomplished solely by the contraction of the uterus, unaided by any of the voluntary muscles. It is characterized by cutting or grinding pains, extending from the loins to the abdomen. It is not advisable to examine the patient very frequently during this first, or premature stage—such examination involving, as it undoubtedly would, a certain amount of pain to the patient, besides causing an undue dryness and irritation in the parts. The more the patient stands and walks about the room the better, as it accelerates the progress of the labor, and renders the delivery

more easy. Again, it is advisable that the medical attendant should leave the room occasionally, in order that the patient may have an opportunity of relieving the rectum or bladder.



Represents the Uterus and Paturient Canal in a state of full Dilatation. At this stage of labor the Membranes generally rupture, and the Liquor Amnii escapes with a gush.

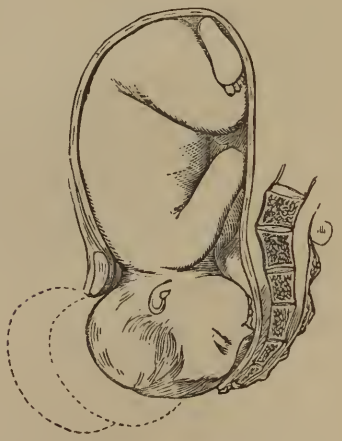
Diet during Labor.—The patient should be as sparing in her diet as possible,—the partaking of

much food generally causes vomiting. A little tea or gruel is all that is absolutely necessary in an ordinary case; but beef-tea and a little brandy-and-water may be given, or an egg beaten up with a small quantity of spirit or sherry will prove beneficial in the event of a lingering labor. It generally happens that the patient will take nothing except something to drink when labor has really commenced.

The SECOND STAGE OF LABOR commences with the complete dilatation of the os uteri, and terminates with the birth of the child. During this stage, the voluntary muscles of the abdomen and the diaphragm come into action, and render valuable assistance by combining with the uterine contractions. The pains attendant upon this state are accompanied by a loud cry or groan from the patient during their occurrence; the intervals become shorter and the pains more intense, the patient grinding her teeth.

[*The patient should now be directed to hold her breath, place her feet at the footboard of the bed, and pull hard at the towel already attached to the bedpost for that purpose; thus assisting the natural efforts by the abdominal muscles and*

diaphragm to procure the expulsion of the child. The nurse should also have provided a sheet of oil-cloth or gutta-percha, or spare bed-linen, to guard the bedding against the flow of liquor amnii, which is now imminent from the rupture of the membranes.]



Birth of the Child. The Extension and Emergence of the Head, in Natural Labor.

The patient ought throughout this stage to lie on her left side. It is also advisable to make frequent examinations, it now causes less pain, as the parts are continuously bathed with mucus and liquor amnii, in greater or less quantity.

The os is now at its extreme condition of dilatation, the uterus and vagina forming one continuous canal,—the time has therefore arrived to rupture the membranes and allow the waters to escape.

Expulsion of the Head in the Occipito-Posterior Position.

As this stage progresses, and until the uterus is fully dilated, the head is found to recede after each pain. Although each separate pain brings the birth nearer, the forward progress is most distinctly perceptible after each *third* pain. In multiparæ, the child is usually born within a very short period after the membranes are ruptured; but in primiparæ, a long time very frequently occurs before its final expulsion, in consequence of the perineum yielding so slowly.

THE THIRD STAGE OF LABOR consists in the expulsion of the *placenta*, *membranes*, *etc.*

The second stage over, there generally occurs an interval of rest, varying from five minutes to a quarter of an hour in duration, sometimes even longer. The womb then contracts upon the placenta, and either expels it or drives it lower down in the vagina, so that it may be easily withdrawn. When expelled without artificial aid, the placenta generally presents a spherical form, the fœtal surface outwards. Should it be found necessary to remove it by pulling the cord, great care must be taken, lest too much force be used and an inversion of the uterus be the result. This operation should never be attempted until the insertion of the cord can be felt; then the placenta should be turned round three or four times, thus twisting it into a kind of cord, and causing the whole to come cleanly and entirely away at once, followed probably by a few clots of blood. If, on the contrary, these conditions are not attended to, a portion of the membranous residuum would in all probability be left behind, and serious consequences might ensue to the female; certainly there will be discredit to the accoucheur, as the nurse will say she has not been properly *cleansed*, and anything that

happens afterwards will be attributed to this by the patient.

Treatment of Natural Labor.

After ascertaining the presenting parts, note the capacity of the pelvis, and other collateral circumstances which might interfere with or extend the period of labor. Get the bowels relieved either with oil or by means of an enema; and adopt every pretext to keep up the patient's spirits. Stimulants are never necessary until near the conclusion of the second stage, and then only in limited quantities, at the discretion of the medical attendant after careful examination of the pulse. Should the anterior lip of the os intervene between the head and the pubes, gently push it back over the head. Much time is saved by this proceeding. It is not necessary to support the perineum in ordinary cases.

When the infant is born, a ligature composed of a skein of stout thread or silk should be tied tightly round the funis, at about 2½ inches from the umbilicus, and also 1½ inches farther on. The cord should then be divided between the two ligatures, first clearly ascertaining what it is you are cutting, to prevent injury to the child; you must now place

your right hand firmly over the uterus, exercising a gentle pressure *downwards* and grasping the cord with the other hand, as before advised; the placenta and membranes will, in most cases, be quickly and effectually expelled.

This being accomplished, the pudenda should now be wiped, and hot dry napkins quickly and plentifully applied. A broad bandage* should be pulled (more or less tightly, according to the exigency of the case) over the hips, and fastened well over the abdomen; the patient being covered with warm cloths, should be got into bed, and allowed to remain undisturbed and free from excitement. It is usual to allow the lower classes to remain quiet for an hour before they are got into bed.

The Use of the Catheter

Will generally be found necessary in all cases of protracted labor. When there is any doubt as to the bladder being full, the instrument should be introduced—and, more especially, before the use of instruments; as the dribbling away of the

* Salmon's Obstetric Binder will be found the most suitable for the purpose; experience having proved it a most effective and valuable auxiliary.

liquor amnii frequently deceives both nurse and patient.

The meatus is on a level with the summit of the pubic arch, the bladder being in its natural condition above the pubes, while the direction of the urethra is backwards and upwards, or the same as the lower part of the anterior wall of the vagina, in which it is imbedded, and can be felt rolling like a cord under the finger between the vaginal wall and the symphysis pubis. It may be introduced whilst the woman is lying on her side or back. The meatus urinarius is easily discovered by the tip of the forefinger; and the instrument (either silver or elastic) must first be well oiled, slid over it, and the urine received in a basin.

I would recommend all my young friends to take advantage of every opportunity and make themselves experts in the introduction of this instrument. They will be able to do this on the dead subject in the *post-mortem* and the dissecting-rooms, and on the living in their hospital practice, more especially whilst attending midwifery for the Lying-in Charity.

Suspended Animation.

When the child appears to be born dead, it is the duty of the accoucheur to try and restore vital action by *artificial respiration*, and to use other efforts besides to restore animation. If the heart still beats, the chances of success are pretty certain. The cord must not be cut if there be still any pulsation, unless the face and head be very dark and congested. Slap the child's buttocks, dash cold water on it suddenly, use friction to the thorax and extremities, and place the infant in a warm bath. Raise and depress the arms, sit the child up, and lift up and set down the arms again, and draw them down to the side of the body. Extract mucus from the child's mouth, and wrap it in flannel.

CHAPTER V.

TREATMENT AFTER LABOR.

In your first visit after the labor, you should ascertain whether your patient has micturated freely. If not, introduce the catheter, and at the same time learn whether there has been excessive discharge or any hemorrhage.

The lochia consist, for some hours after labor, of blood alone. This sanguineous fluid does not coagulate, and after the first six or seven hours resembles water into which some blood has been poured. The lochia come from the denuded uterine walls, the discharge every day altering in character, and gradually losing its sanguineous appearance, becoming successively more watery, then of a dirty-brown hue, and lastly assuming a greenish-brown color, called by nurses the *green waters*. In about three weeks after labor, these discharges cease entirely. The sudden stoppage of the lochia a few days after labor, with suppression of milk, is very ominous of puerperal fever; but I may state

that after the birth of a still-born infant, the uterine discharge will sometimes entirely cease, two or three days after the accouchement, without any evil consequences. If they are excessive and red, the following mixture will be found useful:

℞.—Tr. Digitalis . . . . . ℿx;
Acid. Sulph. dil. . . . . ℿxx;
Inf. Gentianæ . . . . . ℥j.
M. Ter die sumend.

When offensive, wash out the vagina with permanganate of potash and water, or Liq. Sodæ Chlorinatæ, using a Higginson's syringe. When the lochia are deficient, the application of flannels dipped in warm water and applied to the pubes, or the injection of warm water into the vagina, will be found, as a rule, to have the desired effect.

The patient's bowels should be acted upon at the commencement of the third day. Her diet should consist of gruel, tea, and bread-and-butter, for the first day; and but little meat or stimulant should be allowed her until the bowels are relieved—that is, until after the third day. Should the child require anything, give it milk-and-water sweetened with sugar; but it is much better not to feed it at all. The patient ought to remain in bed until the expiration of the ninth day; after which she should

recline on the couch for a few days more, and then take gentle exercise about the room.

Uterine displacement is the inevitable result of getting about too soon. Abdominal support, by a continued use of the binder, is necessary for fully a month after the birth of the child.

The Umbilical Cord comes off about the sixth day. Hemorrhage sometimes results from the ligature not having been properly and tightly enough drawn, or from a want of power to throw out the lymph that is necessary to occlude the vessels. Suppurative inflammation and the hemorrhagic diathesis are sometimes the cause of bleeding from the navel-string.

If suppurative inflammation exists in or hemorrhage proceeds from the cord, another ligature should be applied. In the hemorrhagic diathesis, when there is bleeding from the umbilicus, Dr. Churchill recommends the use of astringents, pressure, and filling the navel with plaster of Paris in a fluid state, which quickly becomes hard, and, being held *in situ* by the fold of the umbilicus, causes a firm and continuous pressure.

In extreme cases it may be necessary to twist or to cut down upon and tie the umbilical vessels.

The Caput Succedaneum, or swelling on the

child's head after birth, requires no treatment; it will subside after a few days or weeks.

The Infant and the Mother.

The Breasts.—As soon as the infant has been washed, it should be put to the breast, and even before, should there be any hemorrhage, as the act of suckling in itself excites, by sympathy, contraction of the uterus. The child's presence at the breasts, as a principle ordained by nature, causes the milk to come quicker, and renders the drawing out of the nipple easier; and besides, the first secretion from the breast (termed *colostrum*) purges from the child the meconium and other matters. The direct benefits to the mother from placing the child at the breast at the earliest opportunity may be thus enumerated: A probable preventive to milk fever, distended, painful, or knotty breasts, sore nipples, milk abscesses, etc. The child would also, in most cases, find in the mother's milk a prophylactic against disordered stomach, wind, constipation, an irritable condition of the bowels, aphthæ, etc.

The Nipples.—When the nipples are excoriated, soft, and tender, the operation of suckling becomes difficult; because the child can draw out the nipples

too easily. The best and most effective remedy will be to use a shield, and apply the following lotion for sore nipples:

℞.—Potass. Nitr. . . . . ʒij;
Vin. Opii . . . . . ʒj;
Pulv. Trag. Co. . . . . ʒj;
Aquæ . . . . . ʒiij.
M. Ft. Lotio. Frequent. applicand.

After-Pains

Are caused by contraction of the uterus to expel clots of blood, or shreds of membrane formed or remaining in it, after labor.

After-pains are very rare in primiparæ, but they are usually present on the second and following accouchements, increasing in severity with each child. I prescribe:

℞.—Liq. Morph. . . . . ♏xx;
Æth. Chlor. . . . . ♏x;
Aq. Camph. . . . . ʒj. Ter die,

which will be found to afford great relief.

Milk Fever,

With an inflamed state of the Mammary Gland, is produced by an accumulation of milk in the

breasts, and its absorption again into the circulation. It generally comes on about the third day.

The *Symptoms* are usually shivering; with a hot or dry skin, coated tongue, quick and full pulse, headache, thirst, and lassitude; but if the breasts be drawn, and aperients and a diaphoretic given, these symptoms usually subside within twenty-four hours.

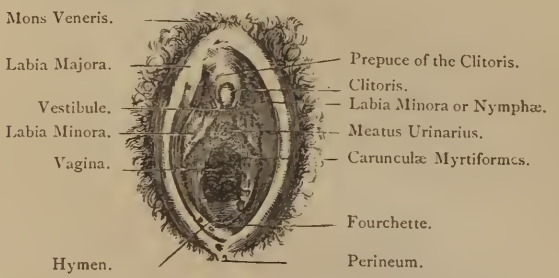
To get rid of Clots.

Sitting up in bed to suckle and take food, and kneeling while micturating, are advisable to get rid of the clots, and to facilitate the escape of the lochia.

CHAPTER VI.

THE ANATOMY OF THE ORGANS OF GENERATION.

A SOUND practical knowledge of the anatomy of the organs of generation and pelvis is indispensable to the accoucheur, as it forms the groundwork of the obstetric art. I have therefore endeavored to present the principal features and measurements as clearly and concisely as possible, in order that students should not be burdened with too much detail.



View of the Female External Organs of Generation.

The Female Organs of Generation

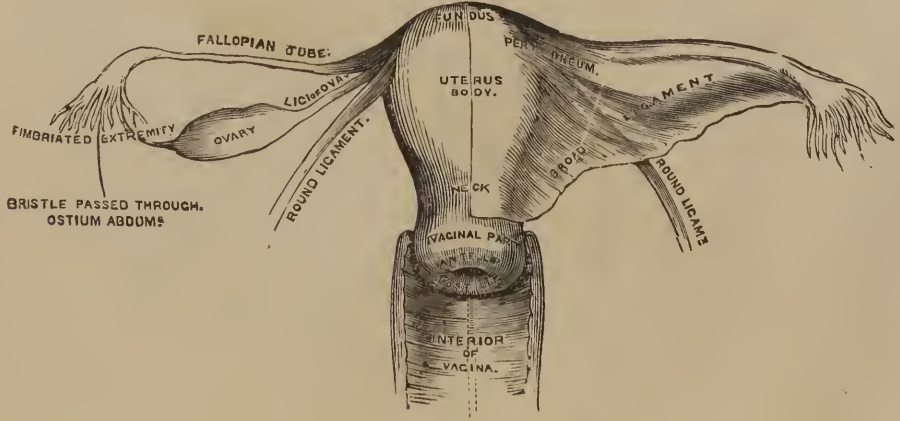
Are divided into two classes—EXTERNAL AND INTERNAL.

The EXTERNAL comprise the—

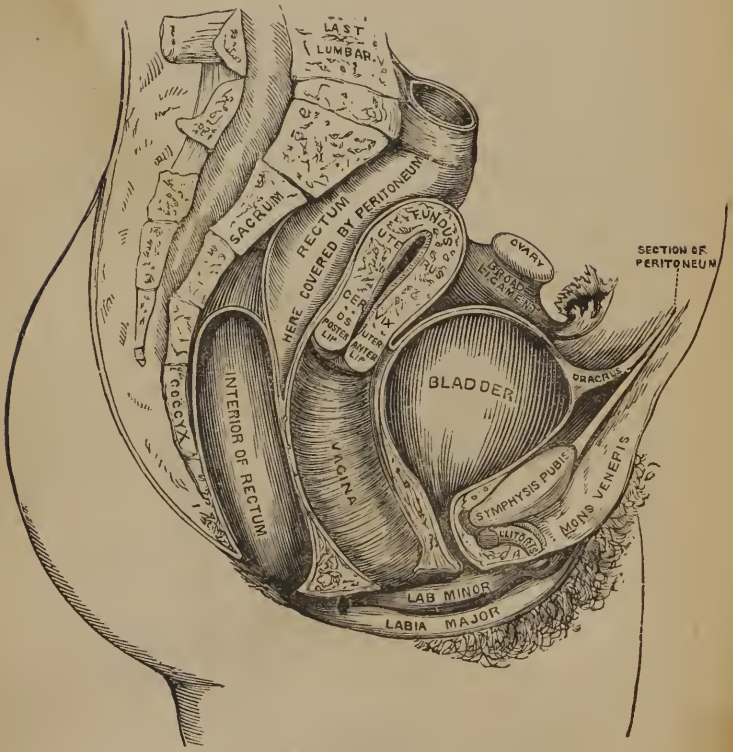
1. Mons Veneris.
2. Labia Majora, vel externa.
3. Labia Minora, vel nymphæ.
4. Clitoris.
5. Prepuce.
6. Hymen (Virgin).
7. Carunculæ Myrtiformes (matron).
8. Meatus Urinarius.
9. Perineum.
10. Vestibule.

The INTERNAL organs are the—

1. Vagina.
2. Uterus.
3. Ovaries.
4. Ovarian Ligaments.
5. Fallopian Tubes.
6. Fimbriated Extremities.
7. Broad Ligaments.
8. Round Ligaments.



Internal Organs.



Internal Organs.

Difference between the Male and Female Pelvis.

In the Female Pelvis, the bones are thinner, more delicately formed, and smoother; the *alæ ilii* are more expanded, the *brim* is more capacious, and the *promontory* of the *sacrum* less projecting, the *cavity* shallower and broader, the *sacrum* more curved, the *symphysis pubis* shorter, the *arch* of the *pubes* wider and more rounded, the *tubera ischiorum* farther apart; the *acetabula* are also wider, thus throwing the thigh-bones more apart; and the *foramen ovale* is triangular instead of being round.

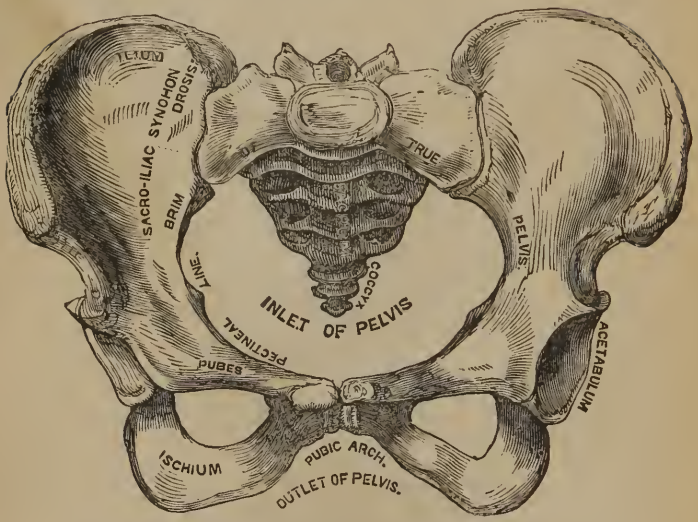
In a few words, we may say that the male pelvis is deep and narrow, the female wide and shallow; consequently, in labor, a lesser amount of surface is exposed to the child's head, and resistance is thereby greatly diminished.

Deformed Pelvis.

There are five descriptions of Pelvic deformity, viz.:

1. Small Pelvis.
2. Large Pelvis.
3. Partially-deformed Pelvis, affecting either the brim, cavity, or outlet.

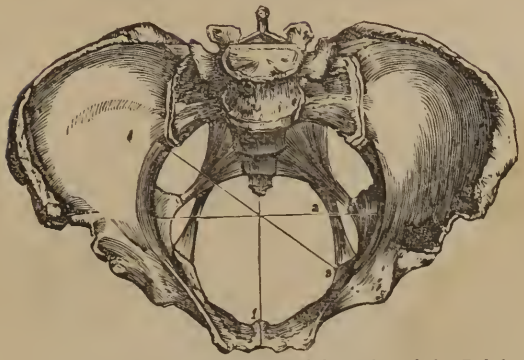
4. The Obliquely-distorted Pelvis.
5. The Funnel-shaped Pelvis.



The Female Pelvis at Adult Life, giving a Description of the Parts.

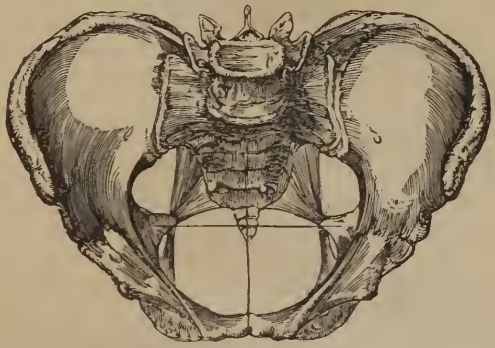
The Adult Female Pelvis.

There are three diameters of the Pelvis—the Antero-posterior, the Transverse, and the Oblique. The measurements are thus taken:



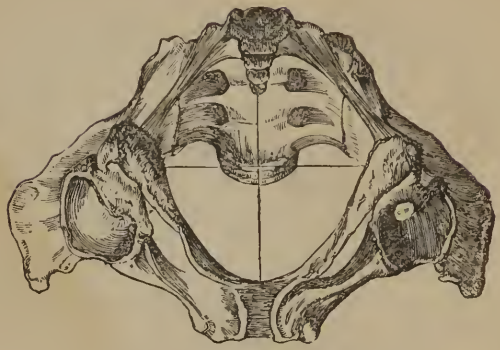
Representation of the Diameters of the Brim of the Pelvis.

The three principal diameters are :—(1) ANTERO-POSTERIOR.—From the inner and upper edge of the Symphysis Pubis to prominence of the Sacrum. (2) TRANSVERSE.—Across the widest part of the brim at right angles to the center. From the middle of the linea ileo-pectinea of one side to that of the other. (3) OBLIQUE.—From brim above Acetabulum to Sacro-iliac Synchondrosis of opposite side.



The Diameters of the Cavity of the Pelvis.

The Antero-posterior from the hollow of the Sacrum to the center of Symphysis Pubis. The Transverse is at right angles with the Antero-posterior, *i.e.* from the lower margin of the Acetabulum on one side to that of the other.



The Diameters of the Outlet of the Pelvis.

The Antero-posterior diameter is from the arch of the Pubis to the point of the Coccyx.

The Transverse from one Tuber Ischii to the other.

It is highly necessary for the student to learn the different diameters of the pelvis by heart, and for the practitioner to remember them.

Measurements of the Diameters of the Pelvis.

	The Antero-posterior.	Transverse.	Oblique.
Brim of Pelvis.	4 inches From prominence of sacrum to inner and upper edge of the symphysis pubis.	5 inches Across the widest part of the brim at right angles to antero-posterior diameter.	5¼ inches From the Sacro-iliac Synchondrosis of one side to opposite side of brim; just above the Acetabulum.

	The Antero-posterior.	Transverse.	Oblique.
Cavity.	5 inches From the hollow of the sacrum to the symphysis pubis.	4½ inches At right angles with the antero-posterior.	5 inches From the obturator foramen on the one side to the middle of the sacro-sciatic notch on the other.
Outlet.	4 inches From the arch of the pubes to the point of the coccyx.	4 inches From one tuber ischii to the other.	5 inches From the junction of the pubes with the ischium and the middle of the lower edge of the sacro-sciatic ligament.

The antero-posterior diameter of the outlet of the pelvis may be increased one inch by the recession of the coccyx, and a deduction of from a quarter to half an inch must be made to allow for the soft parts lining the pelvis. It is generally considered impossible for a full-grown child to be born alive if the antero-posterior diameter be less than three inches; that the forceps cannot be used when the pelvis is below this dimension; and that the perforator should not be employed when the antero-posterior diameter is less than two inches. Even then, by the assistance of the cephalotribe, the head is with great difficulty brought down.

CHAPTER VII.

DIAGNOSIS OF PRESENTATIONS.

BEFORE the membranes are ruptured, the medical attendant should carefully ascertain the presentations. When the membranes are entire, turning is much more easily accomplished.

The Different Kinds of Presentation.

That part of the child nearest the os uteri, and first felt by the accoucheur's finger, is called the presenting part.

There are two classes of presentations—NATURAL and UNNATURAL.

The NATURAL are these in which the long axis of the child corresponds to the long axis of the pelvis—the *Head*, the *Nates*, and the *Feet*.

The UNNATURAL PRESENTATIONS are those in which the child lies across the pelvis—the *Shoulder* or *Arm*. More correctly speaking, the word *natural* ought to be applied to those cases only termed cranial presentations, and the other presentations of the child should come under the head of *unnatural*.

The Head,

When presenting, may be recognized by its hardness and roundness, the hair and the sutures which intersect it, the skin of which is sometimes puffy and œdematous, feeling like a breech; at other times it is loose or wrinkled.

The Face.

The face is softer and more irregular than the head, and may be distinguished by the *nose*, which crosses the os uteri in the same way as the sagittal suture does in cranial presentations.

The Nates

May be recognized by the coccyx or anus. The coccyx lies behind; and in front of the coccyx is situated the anus, in which the finger can be introduced. This presentation occurs once in 60 cases, and is fatal to one in 3½ cases.

The Inferior Extremities

Are known by the peculiar shape of the feet or knees. This occurs about once in 103 cases, and mortality ensues in the proportion of 1 in 2½ cases.

The Superior Extremities

Can be detected by noticing the peculiar shape of the *shoulder*, *axilla*, or *elbow*. The thumb will not only enable the accoucheur to distinguish the hand from the foot, but also the right hand from the left.

When the presenting part is so high up that it cannot be felt, and the bag of membrane protrudes conically through the os uteri, and on rupture of them an unusual quantity of water is discharged, a *shoulder* or *arm* presentation may reasonably be anticipated. This presentation occurs once in 231 times, and mortality to child happens in half the cases; to mother, 1 case in 9.

The Signs of the Child's Death before Delivery are rather obscure, but may be diagnosed:

1st. By the cessation of the pulsation of the fœtal heart.

2d. The sensation of a heavy, cold lump rolling about the abdomen as the patient moves.

3d. Absence of the fœtal movements.

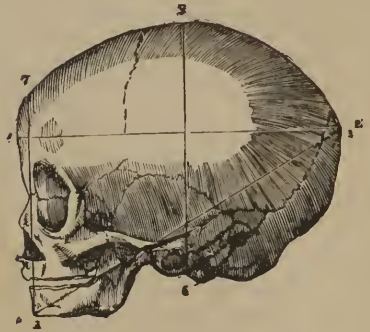
4th. Certain constitutional symptoms, such as depression of the mind, sudden shivering, great lassitude and prostration, loss of appetite, nasty

taste in the mouth; pale, sallow face; disordered bowels; leaden-colored ring round the eyes; cessation of morning sickness; loose, sunken state of the belly, and flaccid breasts.

5th. During labor the scalp is more flabby, with an absence of swelling on the part which presents. Emphysema of the cellular tissue beneath, the looseness and grating of the bones of the head are diagnostic signs. If the *Arm* presents, it will swell and grow livid when the child is alive; but when dead it remains flaccid, and the epidermis comes off in one's hand. If the *Cord* comes first, the pulsation will be turgid when the child is living; while if dead, flabby and pulseless. Should the *Face* present, the lips will be flaccid, torpid, flabby, and motionless if dead; and precisely the contrary if living. If the *Nates* present, and the child be living, the sphincter ani is closed, and contracts upon the finger when introduced; if dead, it is relaxed and insensible to the touch of the finger.

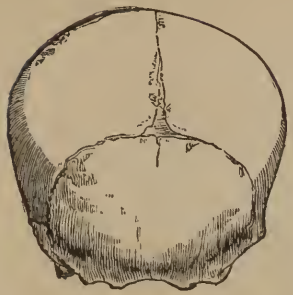
[Fetid liquor amnii is no proof of death; nor is the presence of meconium in the liquor amnii a certain sign of a breech presentation.]

The Dimensions of the Child's Head.



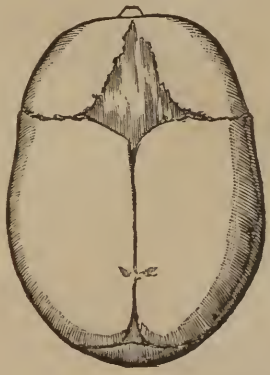
The Head of a Full-grown Fœtus, showing the Diameters.

1 2	Longitudinal, from	4 in.	to 4½ in.
	Transverse	3½ "	4 "
3 4	Occipito-mental, or Oblique	— "	5 "
5 6	Cervico-bregmatic	4 "	4½ "
	The Trachelo-bregmatic	3½ "	4 "
	The Inter-auricular	— "	3 "
7 8	The Fronto-mental	— "	3½ "
	Transverse diameter of Shoulders . . .	4¾ "	5½ "
	" " Hips	4 "	5 "



The Fœtal Head.—Showing the Posterior Fontanelle and Bi-parietal Diameter and Sutures.

The Posterior Fontanelle is seen at the junction of the Sagittal and Lambdoidal Sutures.



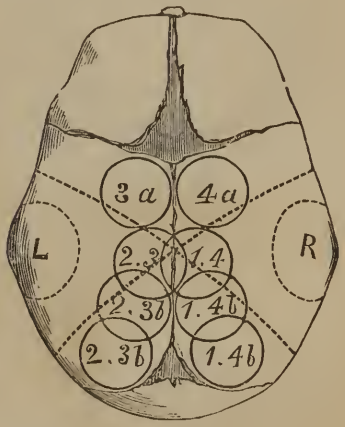
The Fœtal Head.—Showing the Anterior and Posterior Fontanelles and Sutures.

The *Anterior Fontanelle* is the larger; and is situated at the junction of the Frontal and Parietal Bones and at the junction of the Sagittal and Coronal Sutures.

The *Posterior Fontanelle* is at the junction of the Occipital and Parietal Bones and the junction of the Sagittal and Lambdoidal Sutures.

The Positions of the Head.

The cranium may present at the brim of the pelvis, in four different positions:



(R) The Right Parietal Bone.

(L) The Left Parietal Bone.

1, 1, 1. The different presenting points of the Right Parietal Bone, as they successively occur in the first position.

2, 3, 3*a*, 3*b*, 3*b*, denote, in the same manner, the presenting points on the Left Parietal in the second and third position of the head.

1, 4. The point of the Right Parietal Bone which presents at the Os Uteri in the fourth position, at the beginning of labor.

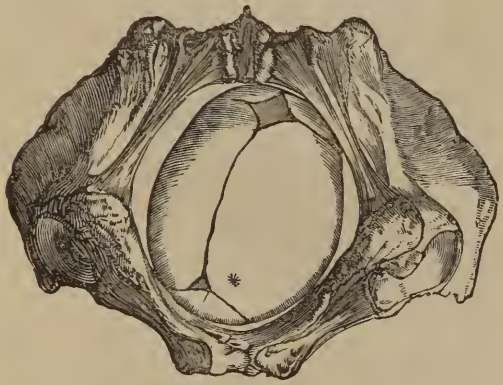
4*a*. The point of the Right Parietal Bone which presents at the Ostium Vaginæ in the fourth position, when the head is delivered in the Occipito-posterior position.

1 4*b* and 1 4*b* mark the points of the Right Parietal Bone which present successively when the head presenting in the fourth position makes the quarter turn, and is delivered in the Occipito-anterior position.

The two diagonal lines crossing the head mark the intersection of the head of the Vulva and Perineum as the head passes out, so that only one Tuber-parietal occupies the Ostium Vaginæ at the same time.

First Position.

This is the most common. The head is placed obliquely at the brim of the pelvis, the long diameter of the head corresponding with the right oblique diameter of the pelvis, the forehead directed towards the right sacro-iliac synchondrosis, and the occiput towards the left ace-



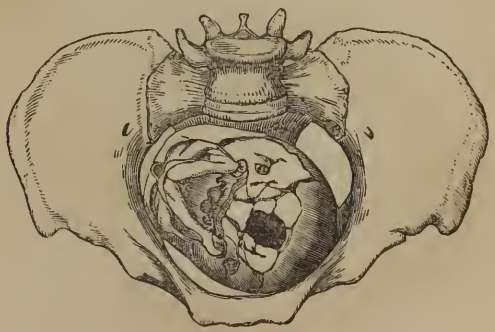
PRESENTATION OF THE FŒTAL HEAD.

1st position.

The star (*) represents the presenting part. It is placed on the posterior part of the Right Parietal Bone, and is called the Right Parietal Protuberance.

tabulum or obturator foramen. By introducing the finger into the os uteri, if dilated, it can detect the line of the sagittal suture running obliquely across the pelvis; or, tracing it towards

the left, it divides into two other sutures, viz., the two divisions of the lambdoidal; whilst, traced backwards and towards the right, it terminates in the anterior fontanelle, an open space where the sutures end. The part nearest the finger, and therefore felt first, is the right parietal protuberance. As labor advances and the head descends,



1ST POSITION OF CHILD'S HEAD.

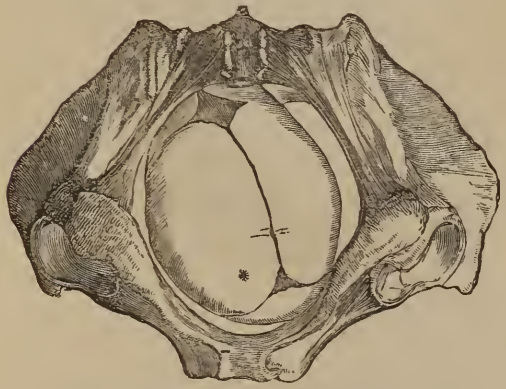
Corresponding to the right oblique diameter of the Pelvis.

The Anterior Fontanelle and Frontal Bone towards the right Sacro-iliac Synchondrosis, and the Posterior Fontanelle and Occipital Bone towards the left Acetabulum, or Foramen Ovale.

it preserves nearly the same obliquity, the upper and back part of the right parietal bone being expelled first, and the infant's face, when the cranium is born, looks towards the mother's right thigh and backwards.

The Second Position of the Head

Is that in which the long diameter of the head corresponds with the left oblique diameter; *i.e.* with the forehead towards the left sacro-iliac synchondrosis, and the occiput directed towards the right foramen ovale or acetabulum. In this position,

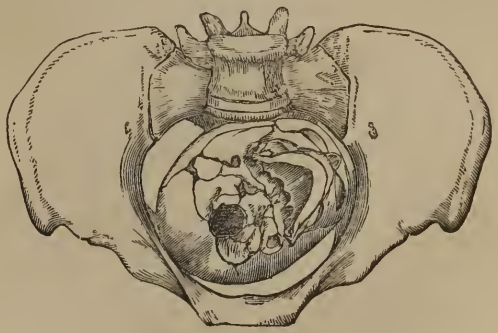


PRESENTATION OF THE FŒTAL HEAD.
2d position.

The star (*) represents the presenting part, and is here placed on the Posterior part of the Left Parietal Bone, called the Left Parietal Protuberance.

everything takes place exactly the reverse of that which occurs in the first position, and the left parietal bone is the most depending part. The head passes from the right oblique into the trans-

verse, and thence into the left oblique; so that the anterior fontanelle now corresponds to the left acetabulum, and the occiput to the right sacro-iliac synchondrosis, and the part that first distends the labia is the posterior superior quarter of the left parietal bone.



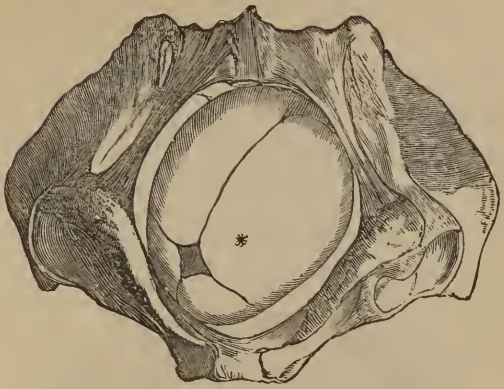
2D POSITION OF THE CHILD'S HEAD

Corresponds to the left oblique diameter of the Pelvis.

The Anterior Fontanelle and Frontal Bone is towards the left Sacro-iliac Synchondrosis, and the Posterior Fontanelle towards the right Acetabulum.

The Third Position of the Head

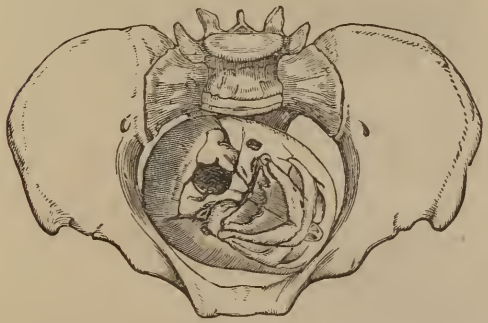
Is an early condition of the second; and its after-course through the pelvis is the same. The head is subsequently, therefore, changed from the third into the second position. It is usual, but scarcely necessary to describe it at all.



PRESENTATION OF THE FŒTAL HEAD

In the 3d position.

The star (*) marks the presenting part, and is placed on the Anterior part of the Left Parietal Bone.



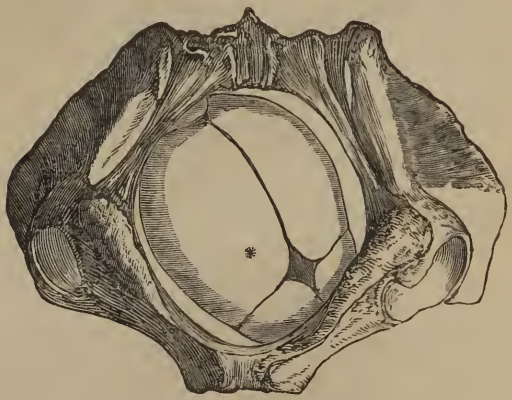
3D POSITION OF CHILD'S HEAD

Is the reverse of the 1st position.

The Frontal Bone faces the left Acetabulum; and the Occipital the right Sacro-iliac Synchondrosis.

The Fourth Position of the Head.

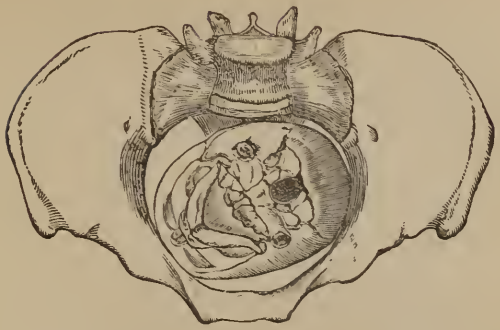
The anterior fontanelle is in the direction of the right foramen ovale; and the occiput is placed in a corresponding situation towards the left sacro-iliac synchondrosis; in fact, it bears the same relation to the first position as the third does to the second.



PRESENTATION OF THE FŒTAL HEAD
In the 4th position.

The star (*) represents the presenting part, and is placed on the Anterior part of the Right Parietal Bone.

It sometimes happens that the quarter-turn made by the head in the second position does not occur in the fourth. When this happens, the forehead comes out forward, looking to the left.



4TH POSITION OF THE CHILD'S HEAD

Corresponds to the left oblique diameter of the Pelvis.

The Anterior Fontanelle is towards the right Foramen Ovale and the Posterior to the left Sacro-iliac Synchondrosis.

Movements of Fœtal Head during its Passage through the Pelvis.

1. *Obliquity.*—The position of the head as it enters the brim of the pelvis.

2. *Flexion.*—When the occiput sinks lower than the forehead in the pelvis.

3. *Rotation.*—As the fœtal head descends in the pelvis, the long diameter changes almost to the antero-posterior, and one-eighth of a circle is described.

4. *Extension.*—When the occiput has passed under the pubic arch, this portion of the head becomes a fixed point; and the face and frontal

bone come down, describing an arc in their progress.

5. *Restitution.*—After the emergence of the head beneath the pubic arch, the head usually rotates back again to the aspect it held in the upper part of the pelvis, the face bearing towards the right thigh of the mother.

Dystokia, or Obstructed, Painful, or Lingering Labor

Is divided into two classes:

1st. Where the progress of the labor is obstructed from some malformation or other abnormal condition in the mother.

2d. When it results from the make or peculiar position of the child.

1st. Maternal Causes.

(1) *Feeble or Irregular Action in the Uterus.*—When this happens, there is a long interval between the pains; and when they come they are short, and have but little or no effect upon the child: this condition is by no means uncommon in females of a delicate or sluggish constitution. When it continues to such an extent that the patient's strength is becoming exhausted, interference be-

comes a matter of paramount importance. The accoucheur should, therefore, at once administer a dose of ergot, a stimulating enema (galvanism is sometimes used), or give an opiate, that the patient may obtain rest, and so recruit her strength. The forceps may afterwards be necessary.

By the administration of ERGOT, the pains will, usually, follow in quick succession.

The indications for the use of ergot are—

1st. Feeble and ineffectual pains, without any apparent or especial cause, *i.e.* atony of the uterus.

2d. If the os uteri be soft and dilatable.

3d. If there be no obstacle to a natural labor.

4th. If the head or breech present, and be sufficiently advanced in a roomy pelvis.

5th. If there be an absence of head symptoms.

It should not be given—

1st. If the os be hard and rigid.

2d. If the presentation be beyond reach.

3d. If there be mal-presentations.

4th. If there be deformity of the pelvis.

5th. If there be any serious obstacle to delivery in the soft parts—and

6th. If there be head symptoms, or much constitutional irritation.

Ergot of Rye is a peculiar species of fungus which attacks the ovary of grasses, and protrudes from them in a lengthened form, especially from rye—hence the term *spurred rye*. It is an oblong, slightly-curved grain—about as thick and twice as long as a grain of wheat, of a dark-brown color externally. Its component parts, on analysis, are as follows:

	Grains.
A thick white oil	31·00
Osmazome	5·50
Mucilage	9·00
Gluten	7·00
Fungin	11·40
Coloring matter	3·50
Fecula	16·00
Salts	3·00
Loss	3·50
	100·00

The chemical composition of Ergot has thrown but little light on its active principles. None of its component elements, administered separately, produces the same effect as the drug when given in its entire state.

The *Liquor Ergotæ* is the most elegant and effective preparation, and is what I invariably use in practice. An infusion of the powdered grain

produces an equally satisfactory effect, and is best taken in milk, with a little sugar.

Excessive Quantity of Liquor Amnii.

The usual remedy for this excess is rupture of the membranes; but if practiced recklessly or without caution, it will sometimes result in a tedious parturition.

Premature Rupture of the Membranes

Occasionally arises from their weakness or tenuity. At other times it is caused by accidental violence or the manual pressure of the accoucheur. The os uteri, instead of being dilated by the soft yielding bag of waters, immediately comes into contact with the child's head, which makes the uterus much slower in dilating, and more painful to the mother.

Tough Membranes.

The accoucheur should, in this case, cut a notch or two in his finger-nail, and saw through the membranes during a pain. It sometimes happens that the child is born with a *caul*, i.e. with the amnion entire; more rarely with the bag of membranes and placenta *en masse*.

Rigid Os or Soft Parts

Occur in women who bear children for the first time when advanced in life; and in others of a strong, muscular build or plethoric constitution. The pains are violent, but the child makes no progress, because delayed by a turgid, undilatable os, or by the vagina. It is often followed by inflammatory symptoms, urgent excruciating pains, great tenderness, and a thin, acrid discharge from the vagina, generally accompanied by a brown tongue, rapid faltering pulse, and other signs of physical exhaustion.

The *Treatment* consists in incising the cervix with a short pointed bistoury, or a moderate bleeding, if the patient can bear it. Tartar emetic may be given, and lard should be well rubbed into the vagina to lubricate and cool the passages. It might sometimes be advisable to procure rest for the patient by administering a full dose of opium.

Pendulous Belly.

There is often considerable delay in the first stage of labor, in consequence of this condition, especially in women who have borne many children, as the uterus assumes an oblique position,

the natural result of a relaxed state of the abdominal parietes, which allows the womb to fall forwards. The child's head, instead of being impelled into the brim of the pelvis, is merely driven back, as it were, against the upper part of the sacrum.

To remedy this condition of things, let the woman lie on her back; support and draw up the fundus uteri with a binder passed round beneath the pendulous belly, and fasten it behind the back.

An Inflammatory or Rheumatic State of the Uterus

Is supposed to delay labor; but I have never seen a lingering case resulting from it. On the contrary, I have often attended persons suffering from rheumatic fever, and they have generally had quick times—the rheumatism disappearing with the birth of the child.

Spasmodic Action of the Uterus.

This occurs when the membranes are ruptured too early, and is overcome most effectually by administering a full dose of opium.

Belladonna applied to the os in this spasmodic condition has been considered of service.

Cicatrices of the Os, Vagina, or Perineum

Are usually the result of sloughing or laceration in former labors, or the use of instruments. They sometimes obstruct the passage of the infant's head; and in such a contingency, it is advisable to give tartar emetic; it may sometimes even be found necessary to carefully cut the parts with a bistoury while they are distended with the child.

Imperforate Hymen

Has frequently caused obstruction—the only remedy being to cut it through—when, in all probability, the head will speedily descend.

Cancer of the Uterus.

Pregnancy has been known to go on to the full period of gestation when carcinoma of the os uteri has existed, but it generally terminates in abortion or rupture of the uterus.

Incision of the os with the knife or diminution of the child's head with instruments will probably be necessary to overcome the difficulty. The Cæsarean section should only be adopted as a *dernier ressort.* The use of the knife in these cases is attended with very great risk to the mother.

Varicose Veins.

Extravasation of blood and œdema of the labia or nymphæ are often found in persons of lax constitution, and act as hinderances to labor. Varicose tumors, if they burst, frequently give rise to alarming hemorrhage, which may necessitate the use of the forceps to prevent fatal consequences.

EXTRAVASATION is most efficiently treated with ice, and ŒDEMA with warm spirit lotions.

Distention or Prolapsus of Bladder

May be an obstacle to a quick labor, but is easily overcome by the catheter, the use of which cannot be too closely studied, both on the living and dead subject. If this be not done, rupture may be the result when forceps are applied.

Stone in the Bladder,

As an obstruction to labor, is extremely rare; but a stone has been known to get down, so as to render it necessary to extract it by surgical means, regardless of the fact that labor was in progress.

Distention of the Rectum

By a quantity of hard fæces is one of the most frequent causes of tedious labor.

The *Treatment* consists in clearing out the bowels with castor oil, an enema, or the handle of a spoon.

Tumors and Polypi

Are serious obstacles to the progress of labor. *Exostosis*, bony or cartilaginous, must be treated as in cases of deformed pelvis.

They may be overcome by natural efforts, the diminution of the child's head by forceps, the Cæsarean section, or the induction of premature labor.

A polypus may be twisted off.

In the early stage of labor it is sometimes possible to push up the tumors out of the way of the child.

In the case of an encysted tumor or enlarged ovary it may possibly be found necessary to puncture with a fine trochar. When these are solid, they must be treated as a pelvic deformity.

Deformed Pelvis.

Smallness of the pelvis, contraction of its brim or any part of its cavity or outlet, are, of course, most serious obstacles to the successful termination of labor; and unless immediate assistance be

rendered, the child will be destroyed and the mother sink from exhaustion, consequent upon her fruitless parturient efforts.

If the infant remain too long impacted in the pelvis, it will give rise to sloughing of the soft parts, and openings will form between the bladder and rectum, necessitating subsequent operations; or the patient's future life will prove one of continuous pain and misery.

The *Treatment* consists in the use of instruments and the performance of the Cæsarean section.

The indications which call for prompt interference are shivering, vomiting, a dry, brown tongue, and a rapid pulse, exceeding one hundred beats per minute.

Malpresentations

Of the child are a fruitful cause of obstructed or lingering labor.

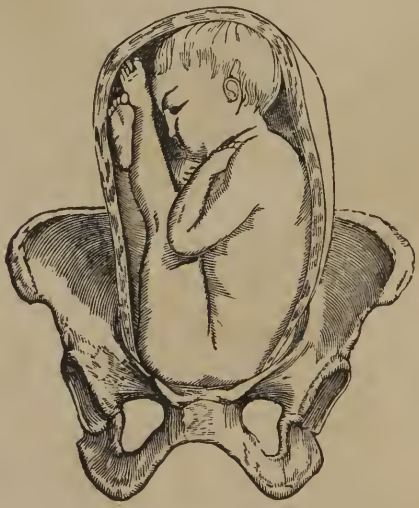
Deformities of the Infant

Comprise, for instance, hydrocephalic head, tumors in chest or abdomen, and monstrosities (such as the union of two bodies—example, the "Siamese twins"), which may all prove obstacles to parturi-

tion, and must be treated in each case according to the deformity and size of the pelvis.

Breech, Pelvic, or Foot Presentations.

Presentations by the feet, or by the *nates*, are often fatal, in consequence of the pressure upon the cord during delivery; but little interference is



Pelvic Presentation.—Breech Presentation.

necessary until the last stage, when either the one or the other part becomes fixed in the pelvis. Delay often occurs, after the expulsion of the body, by the locking of the child's head. The

practitioner should, under these circumstances, introduce his fingers into its mouth, and bring down the chin by fixing them on the inferior maxillary bone; the occiput may then be pressed up by the other hand, and thus the head will be brought down in a more favorable direction for delivery.

Pelvic Presentation.—The Liberation of the Head by depressing the Chin after the Arms have been brought down.

Accidental Displacement of the Arm.

This, in labor, offers a considerable impediment to its progress, and was first noticed by the late

Sir James Y. Simpson, Bart.; and, as he truthfully observes, it is by no means an unfrequent cause of protracted or obstructed labor. In such a case, the arm of the child, instead of resting on the sternum, is turned round the back of the neck.

Accidental Displacement of the Arm.

Too Great Length of the Funis.

The twisting of the umbilical cord around the child's neck or body is by no means so hypothetical or unfrequent in its occurrence as many imagine. If, when the child's head is on the verge of birth, the delivery should be unaccountably delayed—there being plenty of room, and the cord twisted round the neck—an effort should be made to shift

a coil of it over the shoulders. If this be not possible, and the birth be delayed so as to endanger the infant's life by strangulation, it will be advisable to make a notch in the finger-nail and saw through the funis.

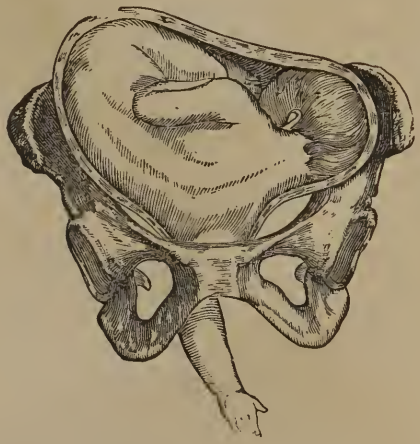
Shortness of the Umbilical Cord.

The navel-string ought to be about eighteen inches in length; but it varies considerably—from eight inches to five or six feet. When it measures less than ten inches, it certainly very much retards the progress of labor, and at the same time it drags upon the umbilicus, and generally causes the navel to *start*. When this happens, place a few strips of sticking-plaster over the umbilicus, to keep it in position, as soon as the navel-string has come off.

Presentation of the Upper Extremities.

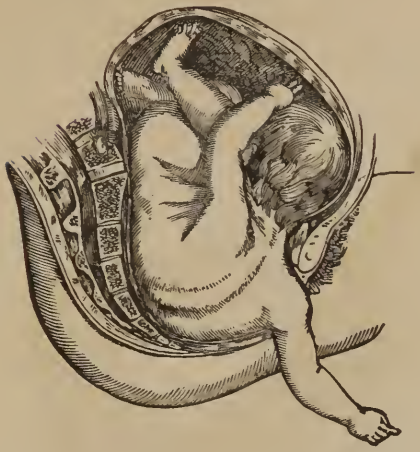
The shoulder generally presents first—the arm becoming prolapsed; subsequently, delivery in this position is almost impossible; but when it takes place by natural expulsion, it is called "*spontaneous evolution.*" In practice, it is *not* advisable to wait for this, but rather to turn the child and bring down the feet. Great care is necessary, by

frequent examination, to prevent a premature rupture of the membranes; and when the os has dilated sufficiently, the operation of turning should be undertaken with as little delay as possible. (*Vide* page 126.)



Transverse Presentation.—Arm Presentation, Dorso-anterior Position.

When the arm has ruptured the membranes a considerable time before the medical attendant has arrived, the womb will be felt tightly grasping it; and if the arm or hand be outside the vagina, it will be of a dark color and swollen, from obstructed circulation. It is generally advisable in this condition to give chloroform to turn.



Transverse Presentation.—Represents the Commencement of Spontaneous Evolution.

Twins and Triplets.

Diagnosis of Twins.—Disproportionate size of abdomen, and flattened state of it in front, as if divided in halves; inequality of surface; great weight and distention; excessive swelling of the legs, and sounds of the fœtal hearts.

Treatment.—After the birth of the first child, wait for uterine action and the expulsion of the second, as there is risk in forcing on the labor. The second child is generally born about twenty minutes or half an hour after the first. Each child has its own placenta; and it is never advisable to

remove the placenta of the first child before the second one is born. After the delivery of the second child has taken place, both the placentæ should be removed together, which may be easily effected by twisting the cords around each other simultaneously.

The use of alcoholic or other stimulants is absolutely necessary to support the mother, as there is generally a greater amount of hemorrhage.

Face Presentations.

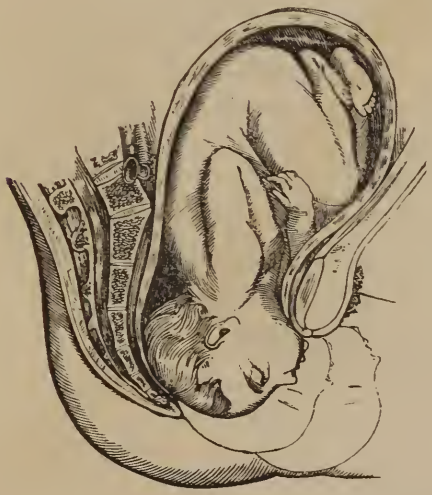
By this we mean a condition in which the head becomes accidentally distended, so that the forehead is the analogue of the four vertex presentations respectively, viz.:

1st position :—Forehead towards left Acetabulum.
2d " " " right "
3d " " " right Sacro-iliac Synchondrosis.
4th " " " left " "

The first and second positions are by far the most frequent; the third and fourth are very rare.

At the commencement of labor, on making an examination, the finger will come on the bridge of the nose; and, when carried forwards, and to the left, it comes upon the "forehead," which, of course, will be opposite the left acetabulum, and just be-

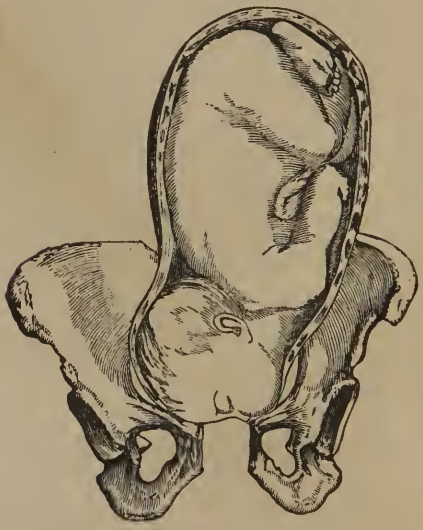
yond the root of the nose. The frontal suture may be traced upwards and forwards, widening in its course until it comes to the anterior fontanelle, which is very difficult to reach; and the farther it is off, the more favorable the position of the head.



Face Presentation.—Face, becoming Chin Presentation, and its Expulsion under the Pubes.

Tracing the nose backwards and to the right, the mouth can be reached, and the alveolar ridges distinguished; and farther back, the chin, in relation with the right sacro-iliac synchondrosis. The caput succedaneum will be found upon the upper

half of the right side of the face, including the right eye, malar bone, and adjoining parts; therefore these parts are lowest in the pelvis.



Face Presentation.—Brow and Face Presentation.

The Diagnosis of the face presentation through the membranes may be made easy enough, as it presents an uneven surface totally dissimilar to the smooth round mass of the vertex presentations.

Treatment.—The only thing that requires to be done is to assist the *chin* in making its rotation forwards and downwards by introducing the finger

into the child's mouth, and making traction upon the jaw and bringing it under the arch of the pubes. Should the head fail to rotate, the forceps must be applied, or the child delivered by turning.

The examination ought to be made with great care, lest the delicate presenting parts be injured; and the membranes ought to remain entire as long as possible. After birth, the infant's features are always much distorted, the mouth dragged on one side and the eyes occluded; these should be fomented with warm water. When the case is over, if the child be much congested about the head, allow a little blood to flow from the cut funis, and dash its face with cold water.

Extra-Uterine Gestation

Is divided into four forms:

1. Tubarian.
2. Ovarian.
3. Ventral—and
4. "Graviditas in substantia uteri" (as described by M. Brechet).

Extra-uterine gestation takes place when the impregnated ovum has not passed through the Fallopian tube into the cavity of the body of the

uterus, but has either remained in the ovary, Fallopian tube, walls of the uterus,—or, having fallen into the abdominal cavity, has attached itself to some viscus there.

The *Ovarian Pregnancy* will sometimes proceed until the fifth or sixth month.

The *Tubarian Pregnancy* usually ends fatally, by rupture of the cyst during the first two or three months.

Extra-Uterine Fœtation.—Tubal Pregnancy.—This represents the Embryo in the Fallopian Tube.

The *Ventral Pregnancy* may continue for years, and may be then discharged in pieces, by ulcerating into the bowels, vagina, or through the abdominal parietes.

It is, however, strongly to be recommended that the accoucheur should endeavor to assist nature in this respect, as was done in a case I had under my care (see "Obstetrical Transactions," 1867),

in which the operation and successful results are described by Dr. Hicks.

Uterus and Fœtus in Abdominal Pregnancy.

The *Symptoms* in the event of rupture, are sudden agonizing pain, vomiting, ghastly pallor, fainting, hurried breathing, and, possibly, fatal collapse; but, under some circumstances, the patient may only experience some few severe paroxysms of pain in the abdomen, nausea, vomiting, peritonitis, distended abdomen, flatulency, and constitutional disturbance, with cessation of the menses, or merely an occasional sanguineous discharge from the uterus, and changes in the condition of the breasts.

CHAPTER VIII.

OBSTETRIC OPERATIONS.—TURNING TO BRING DOWN THE FEET

Consists in artificially changing the position of the child, and then delivering it feet first, which should only be undertaken when the forceps cannot be applied.

When, however, it is considered advisable to hasten labor, care should be taken that the time chosen for the operation should be when the os uteri is well dilated, and the membranes are still entire. When the membranes have been ruptured, the uterus naturally closes upon the child, rendering the operation of turning one of great difficulty and danger. It is never advisable to attempt the turning while the pains are violent. The use of chloroform materially assists the accoucheur in these cases, especially when the parts are very rigid.

The patient must be placed on her side, and the accoucheur, first well covering the back of his hand

with lard, must introduce it in a conelike form, letting the os externum slip over his knuckles.

If the membranes have not already been ruptured, the hand must be insinuated between them and the uterus, until it comes upon the feet of the child. The membranes can then be ruptured, there being but small escape for the waters; the uterus is prevented from closing upon the child, and the turning can be accomplished without any difficulty.

When a pain comes on, let the hand lie flat upon the child, and seek its anterior part, as the feet and knees are certain to be found there.

The elbow is known from the knee by having the sharp olecranon instead of a depression between the condyles.

When the arm presents or hand protrudes, pass the hand along the inner surface: this will probably guide to the child's breast and abdomen.

When you have once laid hold of the foot, do not let it go during a pain; you will then be able to increase your grasp after the pain has passed off. Both legs must be brought down, if possible, as the nates then enter the pelvis much better. The other hand may give material assistance externally, by supporting the uterus and guiding the head of the child into the fundus.

As it will now become a foot presentation, it must be treated as described under that head. The back of the child ought to correspond to the anterior part of the mother's pelvis. There is an excellent work published by Dr. Braxton Hicks, on "Combined External and Internal Version." This is a clear and concise monograph, and it would be well for the student to make himself master of its contents.

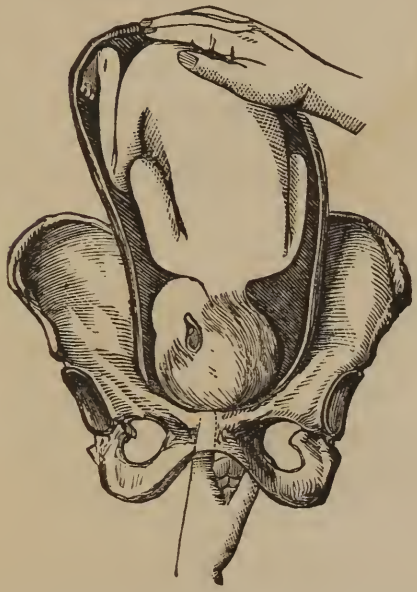
Combined External and Internal Cephalic Version

Consists in removing any obstruction to the passage of the child's head, by seizing it, altering its position, and bringing it down; whilst the other hand is employed externally to assist in the operation.

Combined External and Internal or Bi-polar Podalic Version

Is performed (better when chloroform is administered) by introducing the left hand into the uterus, seizing one or both feet, whilst the right hand is used externally, and bringing them down, for the purpose of delivery. This is resorted to in cases of arm or trunk presentation, in placenta prævia, puerperal convulsions, rupture of the

uterus, prolapse of the cord, the death of the mother, or any other sudden or accidental compli-



Combined External and Internal Version to bring down the feet. — Representation of the first stage in progress. Place the left-hand fingers on the vertex, and push the head to the left ilium away from the brim. The right hand on the fundus uteri pushes the breech to the right and backwards, bending the trunk on itself.

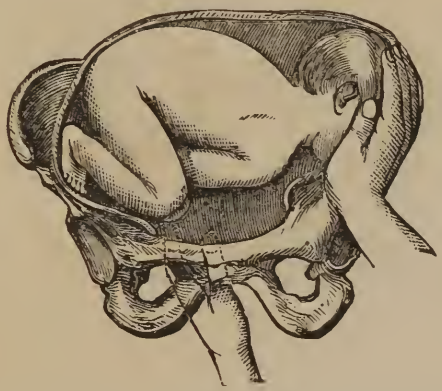
cation; and also in some cases of pelvic deformity, where craniotomy would otherwise have to be resorted to, on the grounds that the base of the skull

is narrower than the inter-parietal diameter, and the head more compressible under tractile than uterine expulsive efforts. Introduce the left hand into the uterus. Bring the fingers together in the form of a cone (having lubricated the back of them with plenty of lard or oil), the hand will then enter better, and cause less pain to the patient. It will generally be found necessary to introduce the

Combined External and Internal Version to bring down the feet. —The second act of the first stage.—The right hand still at the fundus uteri, depresses the breech, so as to bring the knees over the brim, whilst the left hand pushes the shoulder across the brim towards the left iliac fossa.

whole hand into the vagina, and this had better be done by degrees. When accomplished, it might

be only necessary to introduce the fingers into the uterus. I have turned many times by combined external and internal version without the introduction of the whole hand. I may here state, however, that I have never seen any bad consequences as the result of the careful introduction of the whole hand into the uterus, and I never hesitate to have

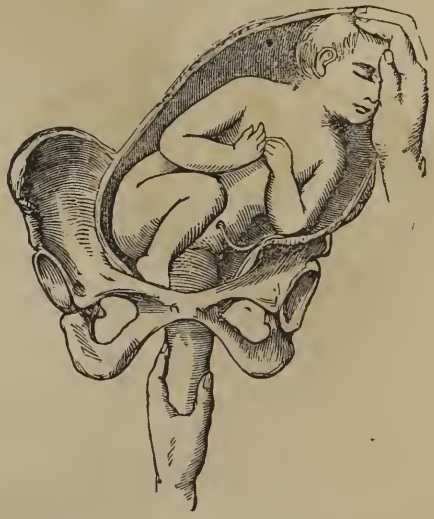


Combined External and Internal Version to bring down the feet. —The second stage.—The trunk being well flexed upon itself, the knees are brought over the brim, the forefinger of the left hand hooks the ham of the farther knee and draws it down, at the same time that the right hand, shifted from the fundus and breech, is applied, palm to the head in the ilium and pushes it upwards.

recourse to it when I consider it an advantage. The steps of the operation are so clearly shown in

the diagrams, that it is scarcely necessary to say much more on the subject. The practitioner may feel puzzled to know which knee ought to be brought down first: it is certainly an advantage to bring down the farther one of the two.

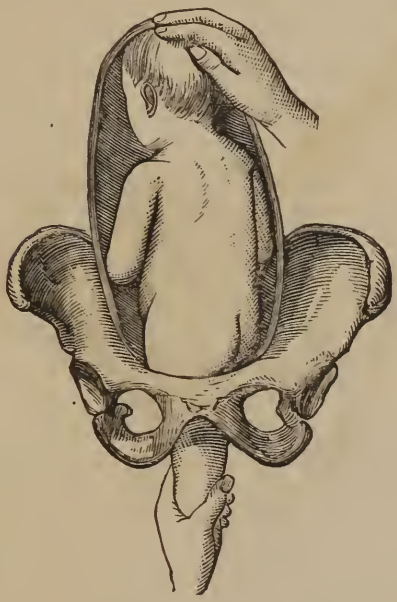
The knee being seized, tie a piece of string or



Combined External and Internal Version to bring down the feet. —Commencement of the third act.—The left hand has seized the farther leg and draws it down the axis of the brim. The right hand continues to push up to the head out of the iliac fossa.

tape around it, if possible, and then the other steps of the operation are at your own command, and

the version will be at once completed, much to your own relief. When this is done, it is well to



Combined External and Internal Version to bring down the feet. —The completion of the third act.—The right hand still supports the head, now brought round to the fundus uteri. The left hand draws down on the left leg in the direction of the pelvic axis. Version is complete; rotation of the child on its long axis has taken place, the back coming forward as the breech enters the pelvis.

rest a little time before going on to extraction, as Nature knows best how to impart the proper turns.

By version we have probably done what Nature was unable to accomplish unaided, certainly with less exhaustion to her. The child may now be liberated by Nature, without our interference by extraction. In this, however, we can assist her by a little gentle force applied to the legs and the

Leg Extraction.—The first act of extraction. The birth of the trunk by seizing a leg.

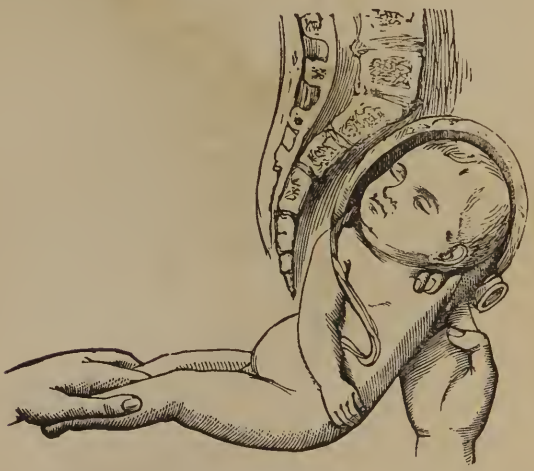
relief of the arms, and by assistance with fingers placed in the mouth of the child when the chin

has been twisted round and lodged on the pelvis by unskillful midwifery. Whatever may have been the direction of the child (first or second position) after we have turned, it will always (if not interfered with) be found with its anterior surface turned towards one or other of the sacro-iliac synchondroses, when the thorax or shoulders are

Leg Extraction.—This represents the mode of liberating the posterior or sacral arm.

beginning to pass through the outlet of the pelvis; and it is very desirable the child should be delivered in this position,—*i.e.* the back of the child towards the mother's abdomen,—as it renders the

getting away of the child's head less difficult. Yet where there has been no interference by the attendant in the previous part of the labor, after the turning, the accoucheur will rarely find it necessary to alter subsequently the child's position, as the breech naturally makes the turn above



Leg Extraction.—Representing the mode of liberating the anterior or pubic arm.

alluded to in its passage. Having turned, it is better to do nothing until after the expulsion of the nates; and then, so far from attempting to assist much by pulling down the trunk, it is often far better, especially if there be any tendency to a

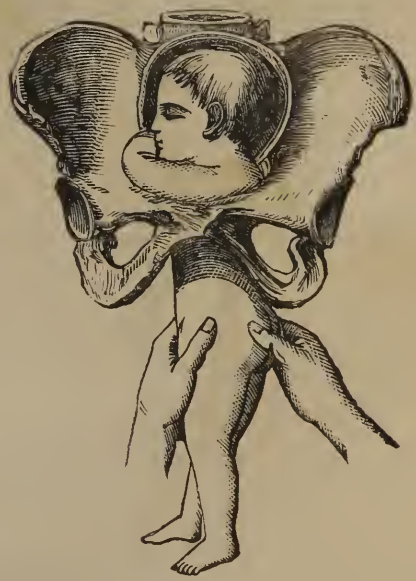
rapid expulsion, to retard the progress of the birth; by this means the uterus, not being suddenly emp-

Leg Extraction.—This represents a mode of liberating the arms. The trunk must be rotated an eighth of a circle from right to left, so as to throw the left arm across the face.

tied, slowly and firmly contracts upon the child and keeps the head down with the chin on the chest. Pressure is less likely to be made on the funis, and there will be less probability of hemorrhage.

In the extraction of the child's head endeavor

as much as possible to follow the curve of Carus; by attention to this it is surprising how little force (with a thorough practical knowledge of the parts) will overcome an apparent difficulty. Pass the



Leg Extraction.—This represents the result of the manœuvre in last figure. By rotating the trunk from right to left, the left arm is thrown across the face.

fingers of one hand over the neck behind, and drag the legs with the other, and take care not to carry the body forward too soon, or you convert it into a bar, which will resist all efforts.

Leg Extraction.—Extraction of the head. The dotted line is the curve of Carus, which indicates the direction to be observed in extraction.

An Improved Obstetric Bag

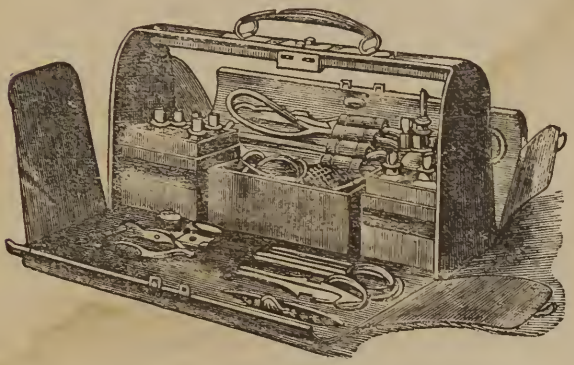
Has recently been introduced to the notice of Obstetricians (from Dr. Greenhalgh's suggestion) by Messrs. Arnold & Sons, of West Smithfield; and

from personal experience the author can conscientiously recommend its use to his professional brethren.

Arnold & Sons' Obstetric Bag, when closed.

The bag contains everything that can possibly be required in the practice of Midwifery. In external appearance it resembles a portmanteau, but does not open in the center. Both the flaps open independently, leaving a rigid frame, having a floor, roof, and two sides—the latter forming the sides of the bag when shut. The frame itself serves to protect three separate compartments arranged on its base; in which there are divisions for the reception of bottles, for Richardson's Ether Spray Apparatus, Chloroform Inhaler, etc. The stoppered bottles are intended to contain Liq. Ergotæ, Tinct. Opii, Brandy, Chloroform, Liq. Opii Sed.,

and other drugs that may be required in obstetric practice. The two flaps of the bag, which, when



Arnold & Sons' Obstetric Bag, when opened.

closed, form its sides, are fitted with straps, and are intended for Midwifery and Craniotomy forceps, perforator, blunt hook, catheter, frænum scissors, and other instruments.

This bag is a great *desideratum* for the profession, and will always be a comfort in practice, being designed with excellent taste, and with instruments of the best quality.

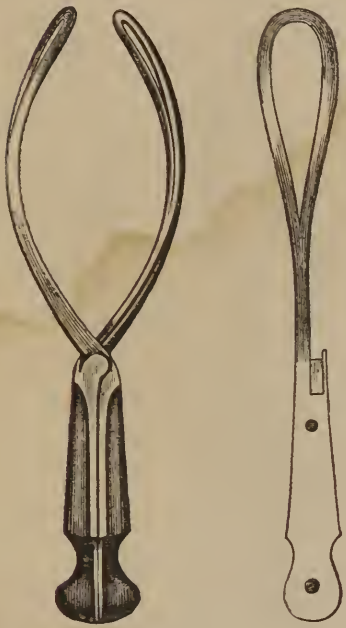
Forceps.

These instruments were first invented about the year 1647, by Dr. Paul Chamberlain, and since that date they have undergone numberless modifications,

but in all the principle is the same. They consist of two descriptions,—long and short; and are all designed for the full-grown fœtus, not for one with hydrocephalic head or the premature child. They act in three ways,—viz., as an *extractor*, a *compressor*, and a *lever*,—and ought only to be applied when the os uteri is fully dilated. The difference in the length of the instrument is merely a matter for accommodation at the high or low position of the child in the pelvis. The short are adapted for the delivery of the head from the perineum, or the middle strait, or outlet of the pelvis. The long forceps are used for the extraction of the child from, or above, the brim of the pelvis. For this reason the shank is lengthened, and should possess the double curves, to adapt them to the curve of the sacrum and the parturient canal.

As regards the selection of forceps, I may state that almost every accoucheur prefers his own, or the instruments he is in the habit of using. The stronger the forceps the less muscular effort will be required in their use, and *vice versa;* besides which, there is less risk to the female in the former, as her operator has more control over them.

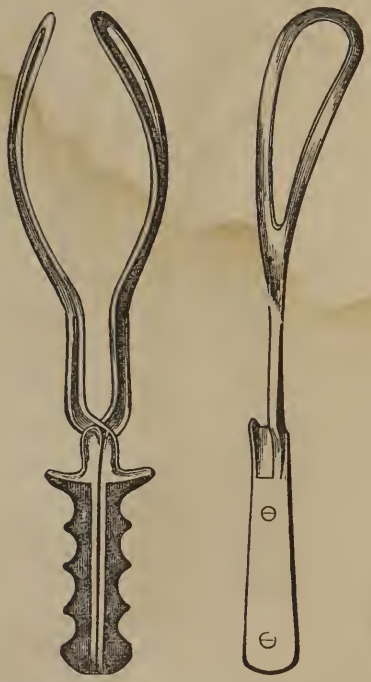
Diagrams of Forceps.



The Short Forceps.—These can only be used when the head has descended into the cavity or outlet of the pelvis.

1. The forceps are applicable when the parts are well dilated, uterine action has subsided, and the patient has become exhausted. 2. In face or cranial presentations, when the long diameter of the head is in the short diameter of the pelvis—in

other words, whenever the diameters of the head and pelvis are opposed. 3. When the dispropor-



The Long Forceps.—The object of the *greater* length is to enable us to operate before the head has descended into the pelvis, and they possess greater lever power.

tion of the child's head to the pelvis is so slight that compression with the forceps is likely to overcome it. 4. When some other portion of the child

presents with the head, as the cord, hand, or foot, the forceps being needed to accelerate delivery.

The Short Forceps with a Second Curve.—When applied, the convexity of them must correspond to the hollow of the sacrum, and the concavity to the symphysis pubis. The second curve (curva nova) has been added to both long and short forceps.

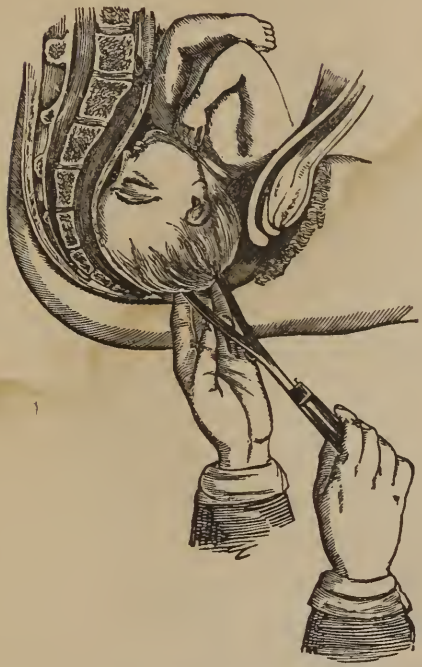
5. Complex labors requiring speedy delivery to save the mother or child, as in hemorrhage, con-

vulsions, syncope, rupture of uterus, impending asphyxia, or exhaustion.

The long and short straight have only the curve of the child's head; the curved have also the curve of the pelvis. Each blade consists of a handle, a shank, and the curved portion or clam. Length of entire short instrument, 12 *inches; length of clam or blades,* 8 *inches; greatest width in parts when locked,* 3 *inches; space between ends of blades,* 1 *inch; fenestra or opening in each blade,* 3 *inches long,* 1 *inch wide; extreme width of each blade,* 1½ *inch. The edges of the blades are carefully rounded, to avoid injury either to the child or mother. The long forceps differ in being* 1½ *inch longer in the shank; in other respects they are the same.*

The patient must be placed on her left side, with the buttocks drawn well beyond the edge of the bed, so as to give free use to the handles of the instrument. The position of the child's head is known by the sutures, and the pelvis of the mother by the trochanters.

The blades of the forceps must be applied in the transverse diameter of the child's head, over each



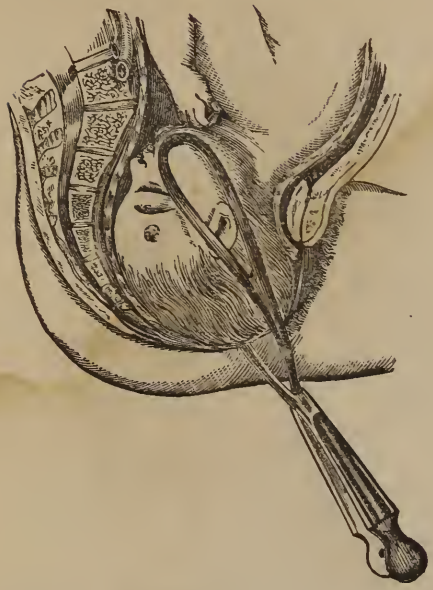
Application of the Forceps.—Introduction of the under blade of Short Forceps.

ear; which is the contrary oblique diameter of the pelvis to that in which the head of the child presents.

It is not of much consequence which blade is applied first; but it is generally advisable to apply that one the lock of which looks forward. When

Application of the Forceps.—Showing the introduction and application of the upper blade, when the Short Forceps are used.

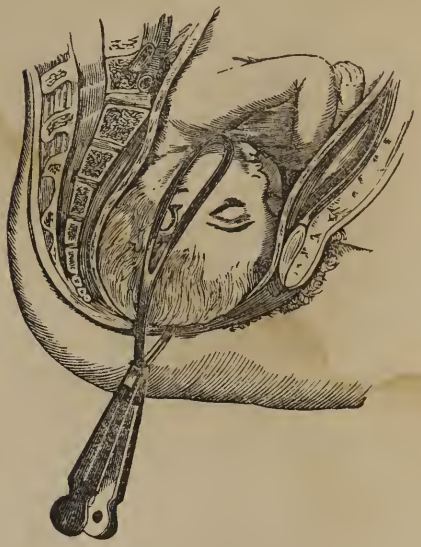
using the curved instruments, bear in mind that the curve must always correspond with that of the sacrum. Never attempt to pass the instruments during a pain. They must be warmed and well greased prior to application, and should be intro-



The Application of the Short Forceps, and Delivery in First Position.

duced along the palm of the hand up to the child's head, to one or other of the oblique diameters. The second blade should be applied exactly opposite the first; so that the inner surface of the second handle will be turned in the opposite direction to that of the first. Unless this be so, the forceps will not lock.

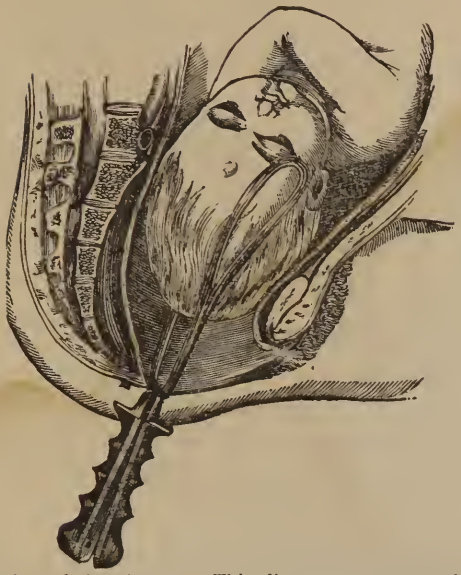
In the application of the forceps, great care must



Application of the Forceps.—This diagram represents the Short Forceps applied in Fronto-Anterior position.

be taken; otherwise, the soft parts of the vagina will be pinched by the lock, or the perineum ruptured by the clam.

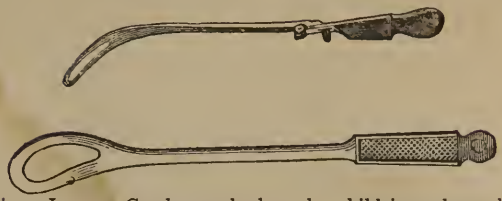
When considerable pressure on the child's head is necessary, most obstetricians tie the handles of the forceps firmly together, which causes the head to elongate more quickly, as it keeps up the pressure on the head between the pains. The position of the child's head must necessarily be the chief



Application of the Forceps.—This diagram represents the application of the Long Forceps.

guide to the accoucheur, as to the direction in which he should pull the instrument. The higher the head is in the pelvis, the more backwards must be the direction of the handles, and *vice versa*.

In extracting, pull and move the handles in a circular direction, so that each portion of the passage may act as a fulcrum to the lever. The tension and pressure will, thereby, be more equally distributed.



Vectis or Lever.—Can be used when the child is at the outlet of the pelvis.

Fillet.—In its application the loop is passed over the back part of the skull, and traction made by a steady pull downwards; very useful when the face looks forwards.

Endeavor to imitate nature as nearly as possible, when compelled to use instruments, and let all operations be conducted gradually, deliberately, and without haste.

Craniotomy.

This is an operation which necessitates the destruction of the fœtus, in order to insure the safety of the mother. It requires an opening to be made in the head of the fœtus during parturition, which is called PERFORATION, and necessitates the crushing of the skull by the craniotomy forceps,

and the removal of the fragments and other portions of the child by the blunt hook, crotchet, or cephalotribe.

Perforator.—Used for penetrating the skull of the child.

Osteotomist.—Is used for the purpose of breaking up the bones of the child's head at the base of the skull, to enable the operator to extract through a very narrow pelvis.

Guarded Crotchet.—For the purpose of extracting the child's head after perforation, properly called the Sharp Hook.

Blunt Hook and Crotchet, or Blunt Hook and Sharp Hook.

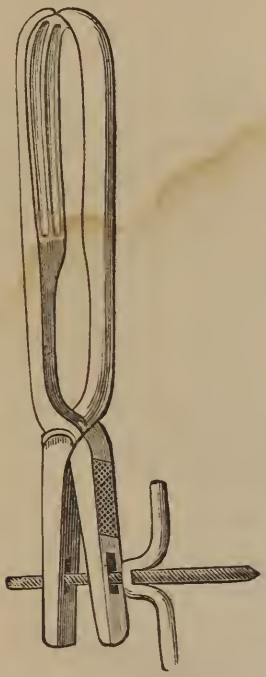
Blunt Hook.—Used for the purpose of extraction, when considerable purchase is required, it may be pressed through the foramen magnum or orbit. It is well to have different sizes.

Craniotomy should only be undertaken when the use of the forceps and the operation of turning have failed in effecting the delivery of the patient, and it is always advisable to have another medical man present to assist in the operation, or to administer chloroform.

A vertebral hook has been invented by Dr. Oldham, to assist in the delivery of the fœtus after perforation. This instrument resembles in appearance the blunt hook, but it is pointed and the curve is very small, which allows it to be easily thrust down the vertebræ, through the opening made in the head with the perforator; and by dragging with the hook considerable force can be used, with little or no risk to the patient.

Craniotomy Forceps.—Used by introducing one blade internally, and the other externally, after perforation, for the purpose of extraction.

CRANIOTOMY and CEPHALOTRIPSY may be resorted to without hesitation when the pelvic contraction



The Cephalotribe.—This instrument is also used as an extractor, after perforation. The blades can be brought together by great power, and the head of the child thus squeezed through a very narrow pelvis.

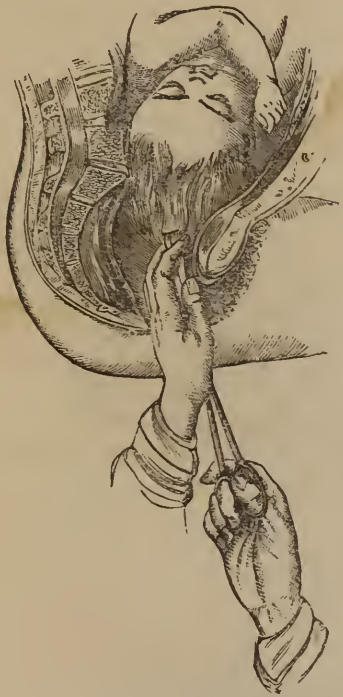
ranges from 3″·25 as a maximum to 1″·5 as a minimum; but should labor come on before the full

term of gestation, the medical attendant must be guided solely by the circumstances which then present themselves, as to his mode of proceeding in the case. It is sometimes only necessary to perforate the head, and crush out the brain, leaving the rest to nature; but it is generally important to deliver quickly; and then recourse must be had to the crotchet, the craniotomy forceps, the vertebral hook, or the cephalotribe,—and, perhaps, it may even be found expedient to follow this up by resorting to EMBRYULCIA, of which I shall treat hereafter.

Treatment.—The patient should be placed on the left side, in the usual obstetric position, and the bladder and rectum emptied. Two fingers of the accoucheur's left hand introduced will then guide to the presenting part, which should be perforated, in order to allow a free escape of the brain, and afford space for the introduction of the crotchet, or the flexis of the craniotomy forceps. The fœtus should be pressed down into the pelvis during the operation, by the aid of an assistant; and then PERFORATION can be satisfactorily effected by boring and pushing.

When the skull has been pierced, push the in-

strument into the base of the brain; open the perforator, and enlarge the aperture in the skull as



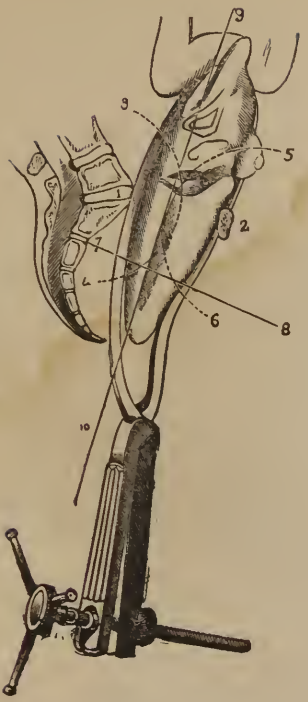
Craniotomy.—The Perforator. Showing how to perform the operation of Perforation.

much as possible. In the use of the crotchet, the hand must be fixed in the pelvis, the fingers guarding the point of the instrument. If the instrument

slips, the hand must be made to slip with it, in order to protect the soft parts from injury. When possible, it is better to apply the craniotomy forceps than the crotchet, the cranial bones being thus more effectually compressed, and their sharp edges prevented from lacerating the vagina, besides

Craniotomy.—This diagram represents the application of the Craniotomy Forceps, one blade in the skull, the other outside—after perforation.

bringing down the head in the position in which it originally presented. The vertebral hook some-



A representation of the Cephalotribe seizing the Child's Head after being perforated. The head is seized somewhat in the right oblique diameter of the Pelvis. It is partly crushed in; but the base is mainly adapted to pass the narrow brim by being canted.

1 is the projecting Promontory of the Sacrum.

2 is the Symphysis of the Pubes.

3 to 4 is the false curve the head must first take around (1) the Promontory.

5 to 6, the true or Carus curve, which the head must enter and follow to emerge around (2) the Symphysis.

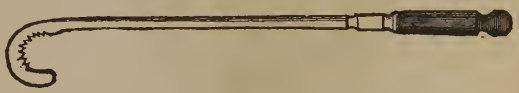
7 to 8, Axis of the Outlet. 9 to 10, Axis of Inlet.

what alters its position by pulling it down in an unequal manner.

There is a blunt hook the shank of which is made of soft metal with a hook that no force can bend; it is long, and has a handle. This instrument is exceedingly useful in extraction, as there is little risk of wounding the soft parts. I can recommend it as a most convenient instrument.

Decapitation.

Decapitation is an operation absolutely necessary in a lingering transverse presentation. When the child is dead from compression, and the uterus is

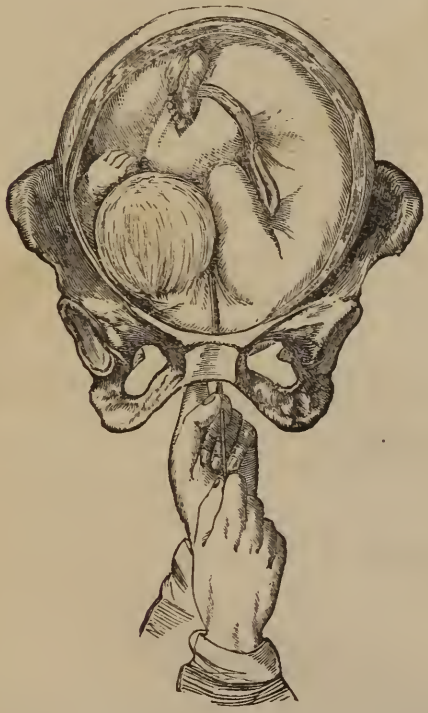


Decapitator.—This instrument is a hook with an internal cutting edge or saw.

spasmodically and closely contracted upon the child; turning in such a case cannot be accomplished without putting the mother to much suffering and considerable danger; therefore decapitation is far preferable.

The operation is performed by passing the hook over the neck of the child, after it has been pulled down by the blunt hook, and by using a sawing

movement (protecting the end by the fingers of the left hand) and traction at the same time, the head can be severed in a minute or two. The body is



Decapitation.—This cut represents the act of Decapitation.

afterwards expelled by pulling on the prolapsed arm. The head alone now remains *in utero*, which

can be extracted by the Craniotomy forceps, crotchet, or blunt hook, by passing the two latter in the mouth or foramen magnum.

Evisceration.—This represents the perforation of the Chest, and the extraction of the Thoracic and Abdominal Viscera.

When there is great pelvic deformity, recourse must be had to the Cephalotribe. Dr. Barnes has

suggested the cutting of the child's head to pieces *in utero*, as he would a tumor in the womb, by the aid of a Weiss's écraseur, with an Archimedian screw and windlass. This is an operation which is performed with considerable difficulty, and is a great tax on the physical powers of the obstetrician. It is tedious, and takes him a long time, unless he be well assisted.

Embryulcia

Is an operation in which the perforator is applied, for the purpose of eviscerating the contents of the chest and abdomen. Smellie's scissors-shaped perforator is the most effective for the operation, the blunt hook being fixed to the pelvis of the child, to bring it down. It is had recourse to in transverse presentations, when the fœtal body is so firmly wedged within the pelvis, or at the brim, that the introduction of the hand into the uterus is rendered an impossibility, or would be attended with danger. The woman lying on her left side, an assistant should be directed to bring the chest of the child as fully into the pelvis as possible by traction at the arm. The perforating scissors, guided by two fingers of the left hand, should be carried against one of the intercostal spaces, a good opening made,

and one or two ribs divided, if necessary, to allow two or three fingers to be introduced in the aperture. Through this incision the contents of the fœtal thorax must be extracted. The diaphragm may be perforated afterwards, and by the same opening the liver and intestines evacuated. The body, thus deprived of its principal contents, will collapse, and if the uterus continues to act with vigor will be expelled doubled, the breech following the curve of the sacrum and perineum. If the pains have ceased, it will be necessary to deliver with the crotchet or blunt hook, carried through the opening and fixed within the fœtal ilium.

The Cæsarean Section

Is the last and most serious resource of the obstetrician, and one which he should not adopt until all other measures have been tried and failed. Its use can be traced as far back as 508 B.C., and is an operation by which the fœtus is taken out of the uterus, through an incision made in the parietes of the abdomen. Persons so born are denominated "*Cæsones*," or "*Cæso matris utero*." Æsculapius, Julius Cæsar, and many other celebrities are said to have entered the world by this means.

Dr. Churchill remarks that, of 440 cases of this

description collected from all sources, 230 mothers were saved and 210 lost. Out of 315 children so delivered, 211 were saved and 104 lost.

When the Operation is necessary.

1. *In cases of pelvic distortion, from bony masses or otherwise.*

2. *When the pelvic diameter does not exceed 1½ inch.*

3. *The sudden death of the mother, with the child living.*

4. *Ruptured uterus, when the child is known to be still living.*

5. *Extra-uterine fœtation, when the mother's life appears in great danger.*

6. *In certain conditions of the uterus and vagina, associated with cancer.*

Instruments and Assistants required.

1. A sharp bistoury.

2. A bistoury with a blunt end.

3. A director (as used in ovariotomy).

4. Several sticks, with small pieces of sponge tied on the end of each.

5. Plenty of large pieces of new sponge.

6. Artery forceps and ligatures.

7. Richardson's apparatus for local anæsthesia.

8. Ice, silver and silk sutures, lint, plaster, and a many-tailed bandage.

Three assistants and a nurse.

The bowels must have been freely relieved and the bladder emptied.

It has been considered advisable to excite uterine action a few hours before the operation is performed, as a dilated os permits the contents of the uterus more readily to escape.

The inhalation of the nitrous oxide (or laughing gas, so called) is preferable to chloroform, as it does not produce vomiting afterwards, a result especially to be avoided.

The Operation.—The patient is placed upon a table on her back—the pelvis being considerably elevated, and the head and shoulders slightly raised. The operator stands on the patient's right hand. The temperature of the room should be between 75° and 80° Fahrenheit.

An incision should be made six or eight inches long, extending from the umbilicus to within a short distance of the pubes, along the linea alba. The skin, fascia, and peritoneum are then to be divided. The linea alba is preferred because no muscles are divided, there is less hemorrhage, and the uterus

is certain to be directly under the opening made, unimpeded by intestine. The peritoneum should be divided upon the director, to avoid wounding the intestines. The uterus now comes into view, and an incision should be immediately made of from four to five inches in length. If the placenta be seen, it must be placed on one side, the membranes opened as quickly as possible, and the child taken out.

The placenta and membranes must now be removed from the uterus, which will, in all probability, at once contract, and so arrest hemorrhage. Nothing now remains to be done but to remove the clots from the cavity of the peritoneum and the wound: pass a *strong probang* up the vagina into the uterus, in order to ascertain whether the os uteri is open and clear enough to allow the discharges to have a free passage, then place a small bit of ice in the uterus through the incision to stay the hemorrhage and bring the edges of the wounds together. From the contractile power of the uterus, the opening into it will be reduced to a mere slit, which will soon unite. The edges of the external wound must now be brought into contact by silver sutures placed rather closely together—the sutures passing also through the peritoneum, which should

be entirely closed. The union of the peritoneum is naturally very rapid; and prevents the ingress of any discharge from the wound to the peritoneal cavity.

Hot flannels should be at hand to guard the intestines, should they extrude. The wound should be covered with cold-water dressings, and covered with hot towels and flannel bandages; and the patient should not be moved for five or six days. The linen and room should be sprinkled with Condy's fluid or weak carbolic acid.

A good sedative should be administered; and a little barley-water, iced milk, or gruel, with or without stimulant, as the case may demand. Open the bowels by enema on the fourth or fifth day, and remove the sutures on the seventh or eighth day.

The *causes of death* after the operation are: hemorrhage, shock, inflammation, or exhaustion.

Artificial Premature Labor

Is usually had recourse to in consequence of distortion of the pelvis or a diseased state of the uterus. It is sometimes even rendered necessary by the state of prostration consequent on excessive vomiting.

There are several methods of inducing premature labor, the most frequently adopted being:

1. *By means of those agents that exert a stimulating action through the blood, on the spinal cord*, thereby causing contraction of the uterus,—such as ergot of rye, borax, cassia, ol. sabinæ, etc.

2. *By bringing into activity the excito-motory or reflex system of nerves*—by stimulating different peripheral nerves; for instance, by the vaginal douche, stimulating enema, irritation of the breasts by mustard poultices, the cervical plug, the separation of the membranes, the introduction of a flexible bougie in the uterus, the intra-uterine injection, the evacuation of the liquor amnii, and electro-magnetism.

These different measures are adopted usually after the viability of the infant; that is, subsequent to the seventh month. In cases of cancer of the womb, however, it is advisable to effect it much earlier.

An antero-posterior diameter of 3 inches would require delivery at about 7½ months; if it extended to 3½ inches, 8½ months would be the proper time. I have not much confidence in drugs *alone* as a means of producing premature labor.

THERE ARE THREE CERTAIN AND RELIABLE METHODS OF SETTING UP UTERINE ACTION; VIZ.:

1. *To puncture the membranes with a trochar and canula a little above the os uteri internum, so as to allow the liquor amnii to drain away slowly.*

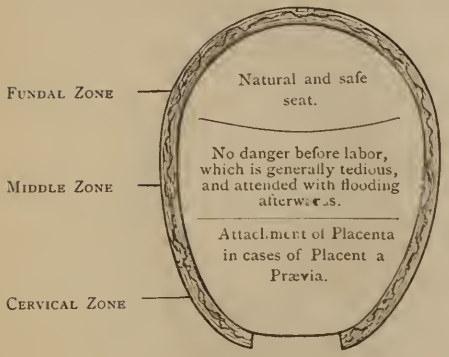
2. *To dilate the os uteri by the sea tangle, or sponge tents.*

3. *To separate the membranes from around the os uteri for about three inches.*

[The latter is most effectually accomplished by the introduction of the elastic catheter or the uterine sound. The elastic catheter being permitted to remain in the uterus, causes the pains to come on faster.]

I have never found any ill effects to arise from the production of premature labor after the viability of the infant. The simple introduction of the sound is sufficient if it be passed so as to separate the membrane for some inches round: days will occasionally elapse if the membranes be not ruptured. It is better to do this than keep the patient in suspense.

Diagram of the Uterine Zones.



Hemorrhages

Are of three kinds: 1. *Unavoidable;* 2. *Accidental;* 3. *Post-partum.*

1. Unavoidable Hemorrhage

Arises from placenta prævia, or placental presentation. The placenta may be attached to the os uteri, or placed entirely over it, so that when the os uteri begins to dilate, towards the end of pregnancy, the connection with the placenta is torn asunder, and hemorrhage results.

It generally begins about a month before the termination of the period of gestation, without any apparent cause—and the gush of blood *is always*

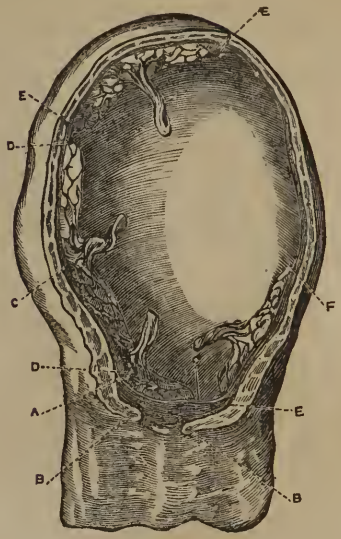


Diagram of the Uterus, showing various Placental attachments.

E to E represents the Placental attachment as a natural condition, when attached to the Fundus Uteri.

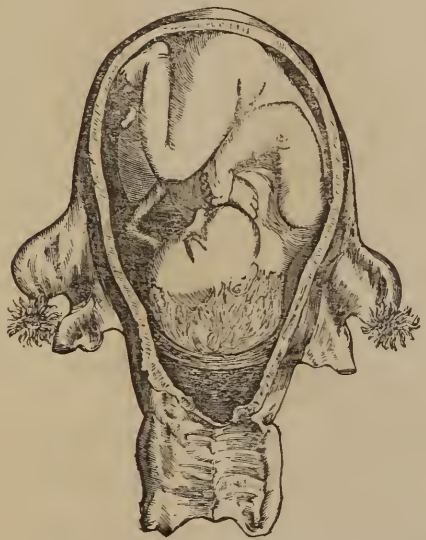
D to D represents a condition that is attended with no risk before labor, with the exception of its being tedious, but is accompanied usually with a post-partum hemorrhage.

A D and E F, when there is Placenta Prævia.

B B, the Os Uteri.

attended by uterine contraction. At first, the quantity of blood is generally small; but the sanguineous flow increases both in quantity and frequency; and would continue until the patient's life is placed in

imminent danger, unless some relief be given. The placenta sometimes becomes detached, and is expelled through the vagina, before the child.



Placenta Prævia.—This represents the Placenta attached over the Os Uteri and presenting, and the child's head resting upon the Placenta.

On examination of the os uteri, a thick, soft, spongy mass may be felt, firmer than a clot of blood, and not breaking down by pressure with the finger. If only partially attached to the os uteri, its edge will be felt continuous with the membranes,

and through the membranes the presentation can probably be felt.

Treatment.—If the hemorrhage be not excessive, and the placenta only partially covers the *os uteri*, without closing its area, and if pains are present, rupture the membranes. The result will be that the pressure of the head, dilating the os uteri, will close the vessels and prevent further hemorrhage.

Should the feet present, with the placenta attached, as just stated, then rupture the membranes, take hold of the feet, and bring down the child; so that the head may make the necessary pressure.

Should the bleeding be very severe, and the os still undilated, the ordinary practice is to plug the vagina firmly with pieces of old linen; keeping the patient in bed, with ice and cold water applied to the pubes; and, when the os has dilated enough to allow of the introduction of the hand between the os and the placenta, perforate the membranes, seize the feet, and complete the delivery by the same process as in a case of turning.

It has been suggested by some writers to introduce the hand *through* the placenta, and not *between* it and the uterus; but it is a proceeding much more difficult to accomplish.

Since the child almost always perishes in these cases (in consequence of the detachment of the placenta); and since the mother is in great danger (from the operation of turning and hemorrhage), it has been proposed to entirely detach and extract the placenta, in the following cases:

1. In severe cases of unavoidable hemorrhage, complicated with rigid and undilated os uteri, in which turning is hazardous or impossible.

2. In the majority of primiparæ.

3. In cases of unavoidable artificial premature labor, in which there may be an undeveloped condition of the os and cervix.

4. In placental presentations with deformed pelvis.

5. In cases where the great exhaustion of the patient will not allow of the operation of turning.

6. Where the fœtus is ascertained to be dead, or is premature and not viable.

This practice has been most vehemently condemned by some eminent accoucheurs.

2. Accidental Hemorrhage

Is the loss of blood from the uterus before and during the labor. It depends upon the separation

of some portion of the placenta, and may be caused through an inflammatory impetus of the uterine circulation, by external violence, immoderate muscular exertion, and mental excitement.

It is distinguished from Unavoidable Hemorrhage by the os uteri having nothing in it but membranes, the discharge of blood coming on during the *intervals of pains*, and its *arrestation by uterine contractions;* whereas, in unavoidable hemorrhage, it *occurs during the pains*, and *ceases during the interval.*

When blood pours forth copiously from the uterine vessels, after the expulsion of the placenta, the case is easily recognized; but it sometimes happens that blood is poured into the bag of membranes, or is retained between the membranes and the uterus without being perceived; and, in this latter case, the hemorrhage may go on to a fatal extent without having either been seen or suspected.

If, towards the end of pregnancy, the patient is subject to derangements of the system likely to produce excessive hemorrhage, and complains of dull, aching pains in the back, tenderness over the uterus, with, perhaps, obvious swelling at some part of it, together with faintness and the consti-

tutional signs of loss of blood—then the treatment should consist (if the hemorrhage be not very profuse, and the patient not near the full time of gestation) in keeping her on a hard, cool bed, with ice applied to the pubes, or cold produced by the ether spray, and a hot-water spine-bag to the sacrum;* enemata of cold water and sulphuric acid with tincture of digitalis and a bitter infusion, or the acetate of lead in acetic acid and peppermint-water, opium, etc.

Should these remedies not succeed, the tampon or vagina-plug should be introduced; the object being so completely to fill the vagina with small pieces of sponge that no blood can come away. This remedy is of no use if the uterus be empty, as, after childbirth, the blood might collect within the cavity of the uterus until the patient's veins are emptied.

Should these means fail, it may be necessary to bring on labor and empty the uterus of its contents, as contraction is the most certain preventive of hemorrhage, by closing the large vessels (and

* See Dr. Chapman's excellent monograph on the application of heat and cold to the spine.

staying the egress of blood), which are open when the uterus is relaxed.

The first means to be adopted is the evacuation of the liquor amnii, which may be followed by full doses of Liq. Ergotæ, if uterine contraction does not quickly follow.

3. Post-partum Hemorrhage

Is the loss of blood from the uterus after the birth of the child, and may arise from inaction in the uterus. The womb will be felt flabby and large in the abdomen, instead of being hard, like a child's head. It may be the result of retained placenta, from an absence of salutary contractile power in the womb; or perhaps the placenta has been expelled by uterine action, but the womb has relaxed again.

The treatment consists in getting the womb to contract by gently, but firmly, grasping or kneading it with the right hand on the abdominal parietes. Dash cold water on the abdomen, not to cause continual cold, but to produce *sudden shocks.*

Administer Liq. Ergotæ with brandy and milk. If this will not succeed, introduce the other hand into the uterus (the fingers forming a cone), and compress the parts from whence the bleeding proceeds (which may be known from their irregular

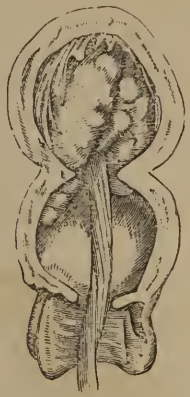
surface), by using the knuckles of the left hand, and the right hand on the surface of the abdomen.

I have often injected tincture of the perchloride of iron (*one part to three of water*) into the uterus in these cases with marked success. It must not, under any circumstances, be forgotten that the introduction of the hand requires great caution, if the patient be very weak and exhausted; because the disturbance and hemorrhage caused by it might be enough to turn the scale and prove fatal. It is therefore quite as well, in such cases as these, to administer a stimulant prior to commencing the operation.

Adherent Placenta and Hour-Glass Contraction.

The hemorrhage may be the result of the partial adhesion of the placenta to the uterus (a portion of which, after its removal, may be seen to be hard and gristly), or from an irregular or HOUR-GLASS CONTRACTION of the womb.

In this case, we must place our right hand upon the abdomen, and seize the uterus, which must be firmly grasped; then steadily introduce the fingers of the left hand into the uterus, and separate the placenta. The uterine contraction will then, in all



Hour-glass contraction of the Uterus; or irregular spasmodic contraction of the Womb.

Hour-glass contraction of the Uterus.—The spasm is here represented at the upper part of the Fundus Uteri.

probability, drive out the hand and the placenta together, and so terminate the case.

Care must be taken not to drag the placenta, otherwise inversion of the uterus might result.

Constitutional Effects of Hemorrhage.

If the hemorrhage be profuse to a serious extent, the head should be raised: a fainting-fit will then occur, and the bleeding stop; but if the head be kept low, so as to favor the flow of blood to the head, the bleeding may possibly continue until past recovery, accompanied by faintness and convulsions.

In any case, if the patient complain of dimness of sight and singing in the ears; if there be frequent sighing, tossing the arms out of bed, and intolerable restlessness, there is great danger.

Treatment.—The diet of the patient should consist of beef-tea, chicken-broth, brandy and milk, eggs and brandy, and small doses of opium; and, if these efforts fail, *transfusion of blood* must be resorted to, the blood being taken from some healthy bystander and poured into the patient's veins; great care being taken that the instruments are warm and clean, and the blood free from the

admixture of air; otherwise instant death would result from the latter.

Transfusion of Blood.

This operation is undertaken when a woman is *in extremis* from hemorrhage, and it is considered to be the *dernier ressort* of the accoucheur; it has, however, been attended with success in some twenty cases, although it more frequently ends in failure. Under any circumstances, and whatever the result may be, we shall have the satisfaction of feeling that we have done everything that science could enable us to do to assist nature. We must first make an incision and put a small tube or canula into the median or basilic vein, at the bend of the elbow of the woman who is sinking from hemorrhage. This may be easily done by first introducing a silver probe into the vein, and then sliding a canula over it.

Then blood must be taken from the arm of a healthy bystander, and introduced by an apparatus (previously made warm) through the canula already fixed in the patient's vein.

The best instrument is a small Higginson's syringe, without valves (a simple india-rubber tube would answer, in the absence of anything better).

It is advisable to have a piece of glass tube inserted, to enable the operator to see whether the current of blood continues to flow.

The injection of five or six ounces of blood has been known to produce the desired effect.

The instrument must be first filled with a saline solution, at a temperature of 100° Fahr.

Dr. Hicks used phosphate of soda in solution.*

Dr. Richardson suggests the addition of three drops of ammonia to each ounce of warm water.

Again, two drachms of salt and one drachm of carbonate of soda added to a pint of warm water will answer the purpose.

The saline fluid ought to be pumped through the apparatus a few times first; then filled, and the one end introduced into the canula and the other end into the vein of the healthy person from whom the blood is to be taken.

Compress the tube or apparatus in the center, and so propel the mixture into the veins of the sinking woman. When allowed to expand, the tube on the patient's side must be pinched to close it (otherwise it will be drawn again); then it will fill from the giver. When filled, pinch the giver's side again, and so gently send on the current of

* "Guy's Hospital Reports," 1869.

blood to the patient. This must be continued until some improvement is observed in the patient.

The object of the saline fluid is to prevent fibrillation and fill the apparatus, so as not to allow the entry of air.

If the lips or eyelids of the patient quiver, or the respiration become more difficult, and the breathing hurried, we must stop, or death will ensue.

When the countenance and expression improve, we must persevere, and blood to the extent of twenty ounces may be introduced, although a much less quantity may have the desired effect.

The blood used may be defibrinated; it does not much matter, so long as it contains the corpuscles of the blood.

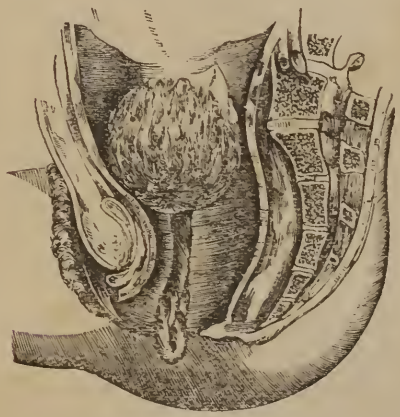
When alcohol is used pure, two drachms to a pint of warm water is quite strong enough; any amount of this may be injected, with or without the saline mixture.

Prolapsus of the Umbilical Cord.

This is the result of an excess of liquor amnii, or of the lower portions of the uterus not having sufficiently contracted about the infant.

Treatment.—Preserve the membranes unrup-

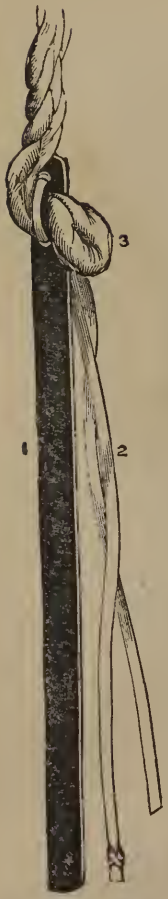
tured as long as possible; as in this condition there can be no danger from pressure. If the pains are active and the passages well dilated, deliver with forceps or turn the child.



Prolapse of the Funis Umbilicalis.—This represents the presentation of the Umbilical Cord, which drops below the head and falls out of the Vagina.

I have occasionally succeeded in carrying up the cord upon the hams, and hanging it (between a pain) upon some part of the child; and then, when another pain was following, I withdrew the hand and allowed the head to descend.

Roberton's apparatus for returning the prolapsed funis, I can speak of in the most favorable terms, and it is highly recommended by most obstetricians.

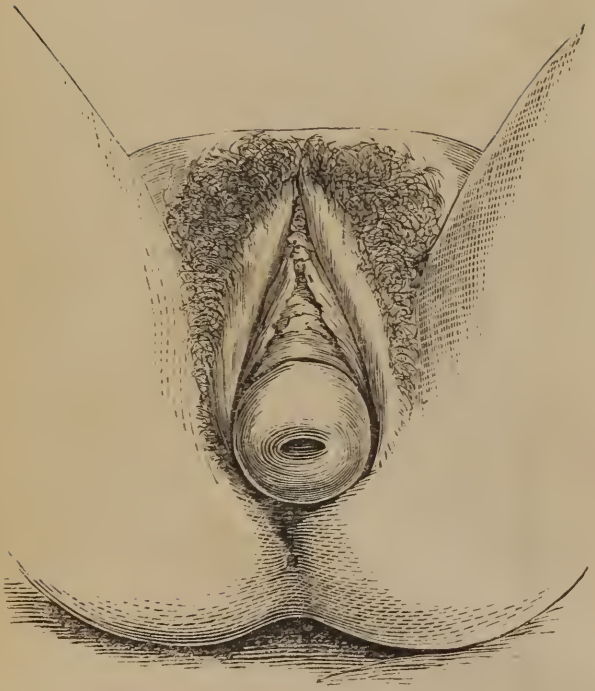


1. The whalebone, very thin, twelve inches long and half-inch wide.
2. Two portions of the tape.
3. The fold of the funis loosely fixed in the loop.

Let the whalebone have two holes bored at one end of it, about an inch apart; carry the tape (which should be less than a yard long) through first one hole and then the other, so that the loop should lie lengthwise on the whalebone, between the holes, and both strings should hang down on the same side. When used, the fold of funis must be placed within the loop, the tape drawn moderately tight, not sufficiently so, however, to impede the circulation through the umbilical vessels, and the end of the instrument thus charged must be carried up into the uterus above the child's head; the tape must then be taken away, by pulling at that half of the string which is passed through the lower hole, the funis released, and the whalebone withdrawn. If the fold comes down again, it may again be returned, and the instrument left for some little time within the os uteri: it can do no harm, on account of its pliability. A knot may be made at the end of the piece of tape which is to be pulled down, to distinguish it from the other.

Instrument for returning Prolapsed Funis.

CHAPTER IX.



Procidentia, or Prolapsus Uteri,

Or, as it is commonly called, *falling down of the womb*. It is of frequent occurrence among those

who are in the habit of getting about too soon after labor—that is, before the parts have had sufficient time to recover themselves. When there is any tendency to this, the patient ought to remain in bed for a week or two *after* the usual period for getting up, retaining the *horizontal* position as much as possible for a considerable time. The best and only effective treatment in these cases is *rest*, combined with good diet and mild aperients. Injections, used before the discharges have ceased, are too often the cause of uterine inflammation. Should prolapsus continue after recourse has been had to these measures, a suitable pessary must be worn. (*Vide* page 218.)

Lacerated Perineum.

This may be so slight as not to inconvenience the patient in any way. The *fourchette* is generally lacerated in first labors; but, when it extends through the perineum, it rarely heals by the first intention, as the discharges or action of the sphincter ani keep the wound open. Both these forms should be treated by keeping the patient in bed, lying on her left side with her legs tied together, the wound frequently cleansed and the bowels confined with opium.

Should the laceration extend through the recto-vaginal septum, a few stitches may be put in at once; otherwise an after-operation will become necessary—viz., paring the edges of the wound and drawing them together by sutures: the stitches may be placed in directly after the labor. It will then perhaps heal by the first intention.

Rupture of the Uterus.

This is one of the most fatal accidents that can happen to the parturient woman. It occurs in about one in 1203 cases, and may transpire in any portion of the uterus, os, cervix, body, or fundus.

The rupture may involve the entire thickness of the organ, or it may extend only through the mucous coat and proper tissue, without injury to the peritoneum; or it may only rend the peritoneum, and do little or no injury to the muscular tissue of the uterus. Generally, the rupture is complete and sudden, the child escaping into the peritoneal cavity. In some cases, the rent widens by degrees, extending with each pain.

The cause is principally to be found in mal-presentation, deformity, obstruction, disease of the uterus, or the excessive administration of ergot.

The *Symptoms* are: Sudden and acute pain in

the abdomen, followed immediately by ghastly pallor of the face; small, weak, thready pulse; fainting; incessant vomiting; the ejection of a fluid resembling coffee-grounds; extreme prostration, frequently resulting in death. The presentations recede out of reach, and blood is generally discharged from the vagina. If the rent be large, and the child escape into the cavity of the abdomen, its limbs can be distinctly felt through the parietes.

Treatment.—Stimulants must be freely administered; but death generally takes place—in a few minutes, if by shock—in a few hours, if by syncope—or after a few days, if peritonitis intervene. Delivery should be accomplished immediately, either by turning, by forceps, or by craniotomy. When the child has escaped into the peritoneal cavity, the hand must be introduced into the uterus, then through the rent, and the feet seized; and when delivery *per vias naturales* is found to be impossible, recourse must be had to Cæsarean section.

Puerperal Convulsions

Consist of violent and repeated epileptic paroxysms, attended with intense congestion of the brain and

insensibility. They are fatal in the proportion of about 25 per cent.

The *Causes* are: The presence of the child in the passages; a loaded condition of the bowels; a scanty state of urine; diseased kidneys, with albuminous urine; or any condition favoring plethora or congestion. Primiparæ are more frequently attacked than multiparæ.

Premonitory Symptoms.—Puffiness of the face and extremities; scanty urine; giddiness, and noises in the ears.

The *Symptoms* are analogous to those of a most aggravated epileptic attack; viz., turgid, purple state of the face; convulsions of the face and whole body; foaming at the mouth; the tongue is often dreadfully bitten; and the respiration is laborious. The fits last from a few minutes to half an hour, after which they subside, the pulse becomes calm and the patient conscious—but they are almost certain to return with increased violence; and then, between the fits the condition of the patient, in slighter cases, may be that of great weakness and confusion merely, or she may be profoundly comatose. The more profound the coma, the greater, of course, is the danger, for profound coma is apt to be followed by death.

Puerperal convulsions may come on either before or after delivery. When they occur before labor, uterine contraction is apt to come on synchronously with the fits, and the child is generally born dead. When they come on during labor, it runs nearly its natural course; but the fits are also synchronous with the pains, and the latter are generally of a very excruciating character.

Treatment.—The *first indication* is to guard the brain from the effects of the accumulation of blood within its cavity; and, therefore, a vein should be opened, and cupping subsequently performed on the nape of the neck, or leeches applied to the temples, until the pulse is lower and softer, and the pupils quite sensible. There is very great tolerance of blood-letting in this disease. The head should be shaved, and a bladder of ice applied to it.

The *second indication* is to produce a copious discharge of the urinary and alvine secretions. Croton oil may be given on sugar; and tartrate of antimony in half-grain doses, every half-hour, till purging or vomiting occurs. It is advisable, also, at first, to administer stimulating enemata, of gruel with castor oil and turps, and give calomel and jalap, and perhaps antimony afterwards. The catheter should be passed, to empty the bladder.

The progress of labor ought not to be interfered with, unless it can be done with ease, and the passages are dilated.

Puerperal Mania.

Women, shortly after their delivery, are subject to attacks of mental aberration, and the causes are usually either gastric irritation or exhaustion.

The *Symptoms* are generally: Morbid fancies of a gloomy and desponding character; restlessness; insomnia; pain in the head; diminution in the secretion of milk; skin hot and dry; pulse full and quick; tongue thickly furred; it is often caused by great debility or prostration from flooding, lingering labor, or some morbid poison in the system; there is delirium, frequently of a most violent character, with tendency to suicide or infanticide.

Treatment.—Rouse and support the physical powers of the patient; allay the irritability of the brain and nervous system; and get the secretions and excretions into a healthy condition. The child should be taken entirely away from the mother, and the patient removed to some quiet and healthy locality—where, with pure air, nutritious food, and good nursing, her mental and physical powers

might possibly be restored to their pristine vigor in the course of a few months.

Phlegmasia Dolens.

This complaint shows itself, generally, between the first and second week after delivery. There is tumefaction of the limb from inflammation and obstruction of the main veins and lymphatic trunks leading from it, and is due to the imbibition of poisonous materials by the uterine veins.

It sets in with quick pulse, headache, rigors, restlessness, and general *malaise;* there is stiffness, tension, and pain, commencing at the hip, and gradually extending along the groin and thigh; followed in a few hours by the swelling of the leg. If connected with crural phlebitis, the most intense pain will be felt in the course of the femoral veins—the whole extremity being left much enlarged, elastic, immovable, and of a white creamy color.

The fascia cribriformis, which is thickly perforated by the lymphatic trunks from the inferior extremities, becomes inflamed by extension, either of the inflammation of the peritoneum along the sub-peritoneal tissue, or of the crural vein, the result of uterine phlebitis.

Phlegmasia Dolens occurs as a sequel of puerperal fever, and occasionally in the last stage of malignant disease of the uterus in the unimpregnated state; in which case it seems to result from the absorption of putrid discharges, the patient being unable to rise from the supine position.

The symptoms pass off in two or three weeks; but the limb remains stiff, or, perhaps, lame for months afterwards.

The *treatment* consists in the extraction of blood by the application of plenty of leeches over the crural ring and along the femoral veins, followed by linseed-meal poultices. The leg must be kept in a raised position. Give opiates at night, and mild aperients followed by tonics. The limb must be wrapped in flannel, and well rubbed with a stimulating liniment. After a short time blisters are sometimes of service.

Puerperal Thrombosis and Embolia.

When women have recently been delivered, and great flooding has ensued from insufficient uterine action, alarming symptoms exhibit themselves in the shape of dyspnœa, violent palpitation, and syncope. These symptoms are alarming, because they

show an altered condition of the blood, often leading to the formation of clots and the obstruction of the pulmonary circulation.

In the "*Obstetrical Transactions*" for 1863, the pathology of puerperal thrombosis and embolia is thus explained:

"1st. There is a dyscrasia of the blood immediately proceeding from the puerperal process, which is favorable to the production of clots in the uterine veins, and the veins of the lower extremities.

"Imperfect contraction of the uterus; the formation of putrilage in the uterine cavity from the admission of air, which acts upon the blood and serum squeezed out of the vessels; the remains of adherent placenta or decidua, are often the immediate antecedent conditions of puerperal thrombosis.

"2d. The next step is that of EMBOLIA. Portions of the peripheral thrombi, attended, no doubt, in many cases, by septic matter derived from the uterus, are carried to the right side of the heart. If the solid matters be large enough, or the septic or ichorous matters be irritating enough, to cause a violent perturbation of the heart's action and to act chemically on the blood-mass, rapid coagula-

tion of blood in the right cavities may ensue, followed by a similar process in the larger pulmonary arteries. In such cases sudden death occurs.

"3d. But in those cases in which either minute portions of thrombi are taken up from the peripheral veins, or when the septic or ichorous matter is less virulent, no clot may form in the right heart, but minute emboli may be carried into the finer divisions of the pulmonary artery, causing lobular pneumonia, ending in slower death, or possibly, with judicious management, in recovery.

"4th. It has been noticed that in many of these cases some mental emotion or sudden exertion has immediately preceded (and has seemed to be the exciting cause of) the cardiac and pulmonic distress."

Treatment.—Dr. Barnes says the first point of importance is to encourage lactation; then enforce the recumbent posture and remove all causes of mental or bodily disturbance, and so prevent activity to the absorption of foul matters. I think a fair amount of stimulant highly essential; and the tonics should consist of iron and quinine, ammonia, bark, etc. There can be no doubt that the ammonia exerts a powerful solvent action upon

any clots which may have formed in the heart or blood-vessels.

Puerperal Fever.

This disease, wherever and whenever met with, is the dread of the accoucheur. I shall, for greater convenience and lucidity, divide my description of it into *four* forms, or varieties.

1. The Inflammatory, or Peritonitis.—This form is by far the most common; and is characterized by shivering, pain, and tenderness over the abdomen, which is increased by any movement of the body. The patient lies with her knees drawn up; the pulse ranges from 120 to 180; is small and wiry, skin hot and dry, and the breathing very hurried, with slight movement of the abdomen. The tongue gets brown and dry at the back, and red at the tip; occasionally hiccough, and frequently vomiting of fluid resembling coffee-grounds or bile; the lochia continues in some cases and is suppressed in others; the milk secretion is generally suppressed. The bowels may be confined, or there may be diarrhœa; and the urine always contains a large quantity of lithates.

The *Treatment* consists in warm applications of bran or linseed; turps; leeches or bleeding,—to

the extent of ten or twelve ounces; Dover's powder; calomel and opium; castor oil; enemata of gruel with turpentine.

Diet must vary with the peculiar conditions of the case. In some cases it is necessary to keep the patient very low; while in others it is desirable to allow her a highly supporting diet, with wine and brandy.

2. A Combination of Milk and Mild Typhus Fevers.—Puerperal fever not unfrequently assumes this form and character. It is ushered in by rigors; great heat and dryness of skin, succeeded by nausea; vomiting or diarrhœa (the evacuations usually being most offensive); feeble and rapid pulse, with great prostration of the vital powers; tongue at first loaded and white, subsequently becomes preternaturally red. The patient is very restless. The urine is small in quantity and very thick.

Treatment.—A generous diet, which should be administered to the patient every few minutes. Brandy and port wine in large quantities. Chlorate of potash, ammonia, Dover's powder, calomel, and opium should be given; and the vagina and uterus washed out with the permanganate of potash five or six times daily. Ice is very beneficial in

these cases, as it relieves the distressing hiccough, quenches the thirst, diminishes the tympanitis, and allays the irritability of the stomach and vomiting. Counter-irritation is also generally necessary.

3. Puerperal Nervous Fever.—This is a form of puerperal fever in which the main mischief seems to be expended on the nervous system; there is great delirium, agitation, and sense of impending death, liable to be followed by fatal coma or syncope. This variety may supervene on either of the others.

Treatment consists in soothing measures principally, and the application of ice to the head.

4. Malignant or Adynamic Puerperal Fever.—This is the worst possible form; in which the most extensive evidences are afforded of the action on the system of poisonous matters that have been absorbed in the blood. It has many points in common with a patient recently delivered suffering from Scarlatina maligna.

The *Symptoms* are shivering and abdominal pain, followed by rapid exhaustion, dusky skin, glassy eye, and quick pulse; suppression of lochia and milk. There is a dry, husky cough, laborious breathing, pain in the chest, and other signs of

pneumonia, and the lungs, after death, will probably be found gangrenous. The pleuræ are often filled with liquid. There are abscesses in the joints and cellular tissue (the latter being of the nature of phlegmonous erysipelas, or diffuse cellular inflammation), phlebitis, gangrene of the intestines, and suppuration of the eyes.

I have found treatment of little avail in these cases, but the indications are to support the strength of the patient in every possible way, and relieve any of the symptoms as they arise. Give drugs containing a great deal of oxygen, to supply that gas to the blood. Sedulously wash out the uterus and vagina with the permanganate.

PATHOLOGY.—Various authors have attempted to explain the diversity of symptoms (and their causes) in this form of fever, by supposing them to depend on a variety of local inflammations.

For example: That an active inflammatory form arises from peritonitis; a low typhoid fever from inflammation of the uterine veins or lymphatic vessels and glands.

Recent research has proved that puerperal fever may be excited if almost any form of putrefying animal matter be brought into contact with women

while in the puerperal state, whether they imbibe it through the medium of respiration, or whether it be introduced through the vagina; so that if the woman be confined in a room or ward with others who have the complaint, she is almost certain to become the subject of it herself; and a practitioner who has attended a case is almost certain to carry it to others, unless he has taken the necessary precautions as to disinfection. It is also extremely dangerous for the accoucheur to attend cases whilst dissecting, or immediately subsequent to *post-mortem* examinations, dressing wounds with putrid discharges, or attending persons suffering from erysipelas.

There can be no doubt but that erysipelas and puerperal fever are very nearly allied; and it is a well-known fact that if a mother die of puerperal fever, the child frequently perishes from erysipelas. Humanity, therefore, demands from the accoucheur the exercise of the greatest care in the performance of his office.

Mammary Abscess

Is of two kinds, *Acute* and *Chronic*.

The acute abscess in the breast is the result of active inflammation, and may form either in the

substance of the gland, or between the gland and skin, or between the gland and chest walls.

Symptoms—Acute.—Occurrence of rigors during the progress of inflammation, engorgement of the breast, deep-seated or diffused burning pains, throbbing and sense of heavy weight, the formation of a painful point, fluctuation. The pain is most severe in the intra-glandular abscess.

Symptoms—Chronic.—Most important, because the knot or lump may be mistaken for malignant disease. The matter forms very slowly; may be the result of scrofula, or derangement of the general health, without any inflammatory symptoms. This form of abscess may occur in puerperal and in sterile women. The first indications are hardness of the gland and soreness about the nipple. An imperfectly circumscribed and uneven tumor can be detected. The fluctuation is indistinct, and often very difficult to appreciate, owing to thickness of the plastic effusion around the purulent collection. The nipple is often retracted, and adhesion may occur between the tumor and the skin.

Treatment.—Leeches, warm applications, poultices, tonics, and stimulants, with a supporting diet, plenty of fresh air. Introduce the grooved needle if in doubt, and when certain make a free

incision, and take care to keep it open. Let the incision be made at the lowest part of the abscess. Introduce a drain tube or the probe if necessary. Pressure by strapping is often of service; and support the breast by a handkerchief around the neck. If sinuses form, inject an astringent lotion.

Pelvic Cellulitis

Is inflammation of the cellular or areolar tissue of the pelvis. It occurs generally in connection with abortion or premature or lingering labor. It may, however, arise as a consequence of external violence, disease of the womb, the introduction of the sound, or some strumous state of the system.

Symptoms may come on insidiously, but generally there is considerable constitutional disturbance, with fever, headache, and restlessness. There is considerable local pain, throbbing and tenderness, aching pain in the limbs, difficult micturition, tenesmus, nausea, and vomiting. A painful swelling is sometimes appreciable at the lower portion of the abdomen, always detected by vaginal examination.

Pelvic Abscess.

If morbid action goes on to suppuration, there is an increased severity of the symptoms. For

instance, rigors, severe throbbing, and tenderness, and neuralgic pains down the thighs. Fluctuation can be detected, and pus may be discharged through the colon or rectum into the upper part of the vagina or bladder, very rarely into the cavity of the peritoneum, causing severe peritonitis; sometimes it will burrow, and make its escape externally; and in some instances pus will form again and again for many months, with troublesome sinuses.

Treatment.—Hot hip-baths, fomentations, leeches, poultices, and turpentine; opiate enemata, castor oil, belladonna pessaries; hot water, vaginal injections, ammonia and bark, quinine and mineral acids; milk, eggs, soup, beef-tea, and animal food as soon as it can be digested. Ice to suck, and mustard-poultices over the pit of the stomach if there be much sickness. The abscess must be opened as soon as it can be detected.

CHAPTER X.

ANÆSTHESIA DURING LABOR.

PARTURITION is looked forward to with so much dread by the pregnant woman, that we cannot wonder the accoucheur should have endeavored to discover some means to abate the torture it inflicts, both in apprehension and reality. The administration of a compound to produce immunity from pain during labor was first successfully done by the late Sir J. Y. Simpson. As far back, however, as the time of Dioscorides, Pliny, and Apuleius, endeavors were made to produce insensibility in persons about to undergo serious operations; and whilst they were under the influence of mandrake and other drugs steeped in wine, limbs were amputated and other major operations performed. There can be no doubt that persons under the influence of large quantities of intoxicating drink feel little or no pain when undergoing an operation that would cause them acute suffering if in a perfectly sober condition.

Anæsthesia may be produced by many different means; but that generally adopted in labor is chloroform, alone, or mixed with some other compound. It was certainly through the untiring exertions of the late Sir James Simpson that the administration of an anæsthetic to produce painless labor was brought so thoroughly before the minds of the public and the members of the profession; and as he had recourse to chloroform only, I think we cannot err by adhering to his ripened experience. I, however, have tried various admixtures in parturition, and I must confess that I have been better pleased with their effects sometimes than when chloroform was inhaled alone.

Chloroform was first administered by Sir James Simpson in November, 1847, in company with Drs. Keith and Duncan. It is a terchloride of a hypothetical base termed formyle, which consists of two atoms of carbon and one of hydrogen; therefore the symbolic designation of chloroform is C_2H,Cl_3. It was discovered by Liebig, in 1832, and its real nature ascertained by Dumas, in 1835. It is obtained by distilling rectified spirits of wine, with water and chloride of lime, in the proportions of four pounds of powdered chloride of lime, twelve pounds of water, and twelve fluidounces of recti-

fied spirit. These are mixed, and distilled so long as a dense liquid, which sinks in the water with which it comes over, is produced. It is rectified by agitating it with the strongest colorless sulphuric acid, which, if it contain any impurities, such as the empyreumatic oils, with which it is liable to be contaminated, at once destroys them by charring, and renders them manifest by the dark color of the line where the chloroform and acid come into contact. It is poured off and agitated with fresh acid if necessary, then poured carefully off into a dry stoppered bottle and shaken with some peroxide of manganese, from which it may be decanted fit for use.

Pure chloroform is a dense colorless liquid, having a specific gravity of from 1·480 to 1·5. It is exceedingly volatile, and boils at 140°. The smell and taste are sweet and fruity, and most agreeable, and if poured on a piece of blotting-paper and then evaporated, it ought to leave no oily empyreumatic smell behind. By passing its vapor through a red-hot tube it is decomposed, and hydrochloric acid is given off, which may be detected by means of paper moistened with solution of nitrate of silver. By such a process it can be detected in the bodies of animals poisoned by a

very small quantity of it; and it can also be discovered in the muscles of a limb which has been amputated whilst the subject has been under the influence of chloroform vapor. It is almost incombustible, thus offering an advantageous contrast to ether, from the explosion of which serious accidents have happened during its administration.

When chloroform is inhaled, the vapor is received into the lungs, and from thence it passes into the blood by absorption, and is carried to the nervous centers and rest of the body, upon which it soon produces its decided influence. The effects produced by the inhalation of chloroform are, for convenience, divided into degrees.

First, or slightest degree, is what may be termed exhilaration, or slight intoxication. The pulse is quickened, and the whole surface (more especially the eyes and face) becomes suffused and red. The current of ideas is vivid, and not quite under control; fear is banished, but there is perfect consciousness of all that is going on, and the severe pain of an operation is still felt acutely, although the pain of disease, as well as that part of suffering which depends on mental apprehension, is relieved.

Second Degree.—There is no longer *perfect* con-

sciousness. The patient usually neither moves nor speaks, though he has the power to do both if roused. This deep drowsy condition is analogous to drunken drowsiness. It sometimes happens that the peculiarities of the patient come out—one person is inclined to fight; another laughs at jokes of his own making; others will talk of their relatives and friends: these phenomena are generally of short duration, as they soon pass on to the third stage or return to the first.

The Third Degree is *profound sleep*, with all voluntary motion and sensation at a stand-still. The eyes are suffused, and turned upwards, the *pupils contracted*, and the breathing slow, almost like natural sleep, but still the eyelids wink if touched. Sneezing is excited by tickling the nostrils; the reflex movements are performed as in sleep; and, although the patient is unconscious, he is not in a state to undergo a prolonged surgical operation.

The Fourth Degree may be termed *perfect insensibility* or *anæsthesia*, and is distinguished by the circumstance that in addition to the profound sleep of the third degree, reflex actions are no longer excited by the nerves of common sensation. The eyelid does not wink when the eyeball is pressed, and the muscles are *perfectly relaxed*. It is well to

commence obstetrical operations at the beginning of this degree.

The Fifth Degree approaches a condition called *coma*—it is marked by a tendency of the *pupil to dilate*, the breathing gets slower, and, if the quantity of the vapor be increased, the patient might die from coma. All parts of the body do not become insensible at the same time (for instance, the matrix of the great toe nail, the margin of the anus, and the whole of the skin of the organs of generation), it is impossible to obliterate their sensibility without pushing the inhalation of the chloroform vapor to an extent which greatly surpasses that required for ordinary purposes. Involuntary passage of urine or fæces during long anæsthesia is a symptom of paralysis of the sympathetic nerves, and betokens danger. *The quantity inhaled* is not of much consequence, so long as too much is not present in the blood at the same time. A small quantity inhaled rapidly, sometimes produces a dangerous effect. It is impossible to estimate the quantity required, as some persons can take a much larger quantity than others.

ADMINISTRATION.—Sir James Simpson used no apparatus, only a simple handkerchief, and, from

my own experience, I feel this to be the safest mode of administering it, when a slight degree only is required, as in midwifery cases. It is, however, a very extravagant way, as the evaporation takes place very rapidly. Various inhalers have been manufactured to obviate this; any instrument will do that will absorb it, and at the same time prevent rapid evaporation. *Vide* Weiss's, Snow's, and Sibson's.

Position.—If the patient be made to lie down it produces a much quicker effect; she should be told to compose herself as much as possible, as if to try and sleep. A napkin should be folded into a hollow cone, pour about twenty drops into the apex, then it should be held about two inches from the patient's face, who ought to begin to breathe through an open mouth slowly and deeply, so as to inhale as much of the vapor as she can. If there be any choking, remove the napkin a little farther. When the twenty minims are exhausted, add the same quantity, and continue until narcotism or the desired effect is produced.

The class of patients on whom chloroform acts most agreeably and safely are, singularly enough, women in childbirth. With them it scarcely ever causes either struggling or mental excitement. In

midwifery the uneasiness and spasms which attend the early stages, and the distention and rigidity of the parts, together with the anxiety and fears, are so tranquillized, that although the fortunate and healthy women do not need it, yet those who have ever experienced the comfort of it are never willing to forego it in another confinement. Besides, in ordinary cases, its good effects can be produced by the smallest doses, without scarcely passing the first or second degree of narcotism, and without the slightest danger at the time, or ill effects to mother or child afterwards. In the various obstetric operations of midwifery its influence is most satisfactory, and another happy circumstance is associated with it, that it agrees so well with opium. A small quantity carefully administered is attended with no risk, even in disease, whilst a large quantity rapidly given is attended with danger to the most healthy.

Accidents from Chloroform.—The commonest is vomiting. When this comes on during inhalation, turn the head on one side to let the vomited matter escape. If very troublesome afterwards, give brandy and soda-water with ice, and, perhaps, an aperient, and the patient, if chilly, should be warmly wrapped up. Abstinence from food for four hours before

inhalation will diminish, and probably prevent, sickness altogether.

Death may arise, 1st, from *apnœa*, or suffocation, by interfering with the passage of the blood through the lungs, by giving the blood such a quality that the pulmonary capillaries refuse a passage to it, or by acting on the medulla oblongata in such a way as to stop the reflex act of respiration. Possibly spasm of the glottis may be produced by a concentrated vapor. After death, congestion of the lungs and fullness of the right side of the heart would be found.

2d. By *syncope* or *angina*, i.e. paralysis of the heart, in which it usually kills man. *Symptoms.*— The patient all at once raises her body and struggles, the face is noticed to turn deadly pale, and the limbs become relaxed, blood ceases to flow from arteries, no pulse is felt at the wrist, the heart cannot be felt to beat, the breathing continues slowly and gaspingly for a minute or two, and then all is ended. When death occurs, the heart is generally found to be large, soft, flabby, or in a state of fatty degeneration.

3d. It may cause death by what the French call by the classical term *sideration*, to wit, a star-struck or blasted state of the nervous system, or,

in plain English, by a sudden annihilation of the life of the brain and spinal cord. Hence the syncope may be caused by the state of the brain, and not merely by the direct action of the poison on the heart. That the chloroform has an injurious effect on the nervous centers is manifest from the nature of the thing, and from the vomiting.

Post-mortem Appearance.—The blood corpuscles are found in the victims of this anæsthetic to be crenated and wrinkled at their edges; but it is not universal, neither has it been proved that this appearance is confined to cases of death from chloroform. Nothing constant is remarked in the color of the blood, nor yet as to congestion of the lungs, brain, or other organs.

It appears that no death has ever occurred in labor which can be directly attributed to the use of chloroform. In the majority of cases it does not interfere with the labor-pains, except by suspending voluntary action, when the insensibility is complete. When the dose is given milder, the patient will not become insensible, but will be able to exert considerable force in the expulsion of the child. It does not prevent the subsequent contraction of the uterus, so as to render the female more liable to *post-partum* hemorrhage. Sir James Simpson has

used it in placenta prævia. When a thorough examination of the uterus is necessary, chloroform is of great assistance, by relaxing the parts and enabling us to introduce the hand with much more ease, as in cases of distortion, to determine the diameter of the brim, and find out whether it be possible for the living or mutilated child to pass, or whether it be necessary to have recourse to the use of the perforator or Cæsarean section. I never object to its use in labor if the patient be free from organic disease of the heart, lungs, and kidneys. It is not always advisable to press the administration of it to the fullest extent. It is quite possible to afford immense relief, and render the pain quite bearable, by a dose which does not produce sleep or impair the mental condition of the patient: it is needless to add that under these conditions a patient is quite free from danger. In my own practice I never object to its use if the patient suggests or wishes for chloroform, unless her condition be such as to not justify its use.

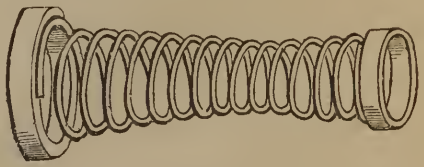
The period at which it is advisable to administer it varies with different accoucheurs. Some commence before the os uteri has dilated, others at about the time the head escapes through it. For my own part, I generally begin its inhalation when

the uterus is fully dilated, and I don't think it necessary before, as the pains are short and easily borne; besides, it is more likely at an earlier period to interfere with uterine action. Sir James Simpson used to commence at this same period, and preferred inducing complete insensibility at first, and then keeping up just as much of its effects as he deemed advisable. Others prefer commencing with smaller doses and increasing them if necessary; and the Obstetric Committee of the American Medical Association, in their report, agree with this view. If we intend performing an obstetric operation, it is necessary to put the patient completely under its effects before commencing the operation, and we must also keep up its influence by occasional inhalation. In Midwifery it is better to administer it at the beginning of each pain, and increase the extent of its influence as the pains get more severe when the head is passing over the perineum. The anæsthetic state may be kept up for hours without fear, especially when complete loss of sensibility is not considered necessary. The patient may be allowed to hold the inhaler herself, and take it as she feels disposed; it will fall from her hand when enough has been inhaled to produce loss of pain.

Pessaries.

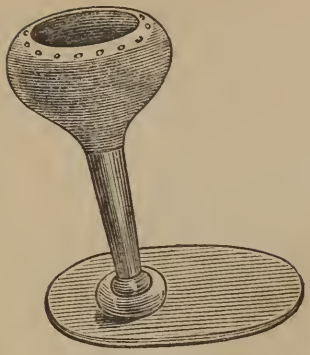
Since the introduction of these instruments, they have not only been very extensively used, but I have grounds for believing they have been often introduced as a means of support when quite unnecessary: this is generally the case with any new remedy or instrument. There can be no doubt that, when properly applied, they are of immense benefit to the patient in many uterine displacements.

I have introduced into this work the various pessaries commonly used, which I think will be of considerable assistance to those who wish to see at a glance the instrument best suited for the particular case under notice.

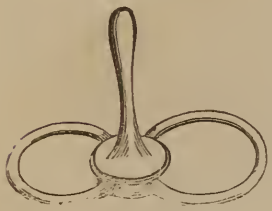


Clay's Pessary.

Some persons condemn pessaries, because they have been used in cases when quite unnecessary; but as I have seen so much good arise from their use, I am bound to bring them before the notice of



Duffin's Pessary.



Dr. Hewitt's Pessary.

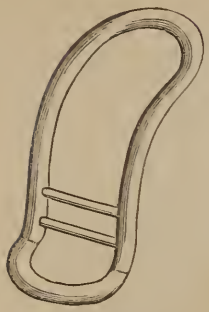
Hodge's Pessary.

the practitioner in this work. I have seen cases in

Hodge's Pessary.

Hodge's Pessary.

which the intra-uterine stem pessary had produced metro-peritonitis and other serious results. (*Vide*

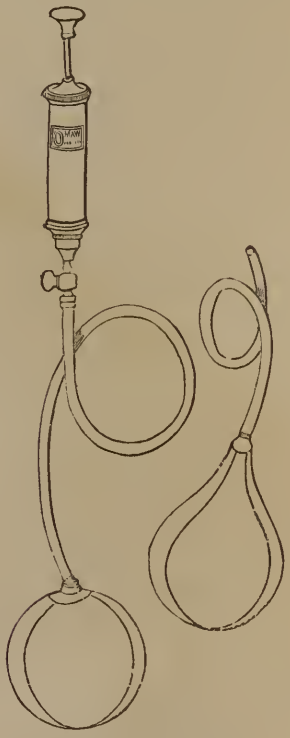


Hodge's Pessary.

Hodge's Pessary.

Hodge's Pessary.

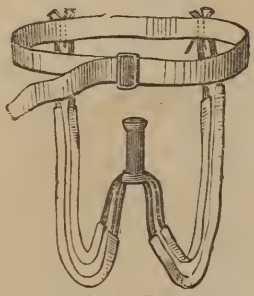
Simpson's and Hewitt's, etc.) I have seen Hodge's pessaries cause ulceration from pressure deep into



India-Rubber with Syringe.

the anterior walls of the vagina, almost into the bladder. I have known others to cut sulci in the posterior *cul-de-sac* of the vagina and elsewhere.

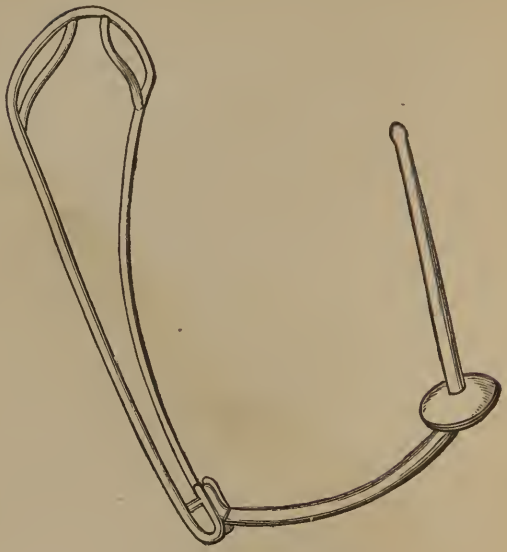
Zwanky's pessary I have seen almost sever the urethra from the bladder, cutting down to the vesical membrane. I have known the disk of a vaginal pessary pass almost into the cavity of the uterus, from long pressure. Several cases have come under my observation in which they have produced fistulous openings into the rectum and bladder, having remained there for months.



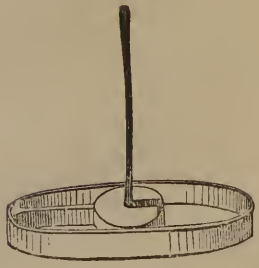
Schofield's Pessary.

Spring Pessary.

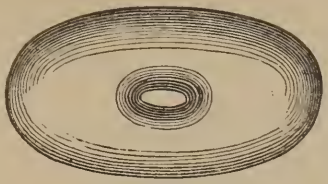
A short time since a lady came to consult me who was suffering the most intense pain in and



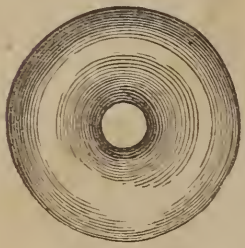
Simpson's Stem Pessary.



Simpson's Uterus Stem.



Wood's Pessary.



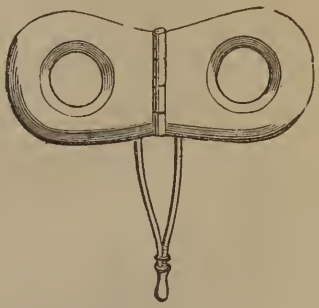
Wood's Pessary.

Wood's Pessary.

around the pelvic organs, and on a careful examination I discovered a pessary deeply pressed in the

Wood's Pessary.

uterine walls, which must have been placed there at least twelve months, and was then introduced by an eminent physician, without even her knowledge



Zwanky's Pessary.

of it. Notwithstanding these facts, I almost daily advocate their use, and were I not to do so, I

should turn away many cases without being able to relieve them. Never use them when there is uterine inflammation. The following rules ought to guide us:—Take care to select an appro-

Zwanky's Pessary.

priate instrument. Be careful to have one not too large or too small. Do not allow it to remain in too long. And the patient ought to be able to apply it and take it out herself.

It is impossible to state which or what pessary is the best; each one has its advantages, and although two persons are suffering from a similar condition of uterine displacement, it does not follow that the same instrument is best suited for each case.

Spina Bifida.

This is a condition which generally puzzles the practitioner the first time he meets with it in practice. It is an affection in which the spinous processes and laminæ of some of the vertebræ are cleft or deficient. The spinal membranes, deprived of their ordinary support, yield to the pressure of the subarachnoid fluid which they contain (which is likewise secreted in unusual quantity) and bulge out, forming a fluctuating tumor in the middle line of some part of the back, generally the sacral or lumbar regions. It may vary in size from a walnut to a child's head, there is fluctuation, the swelling is most tense when the child is held upright; the swelling is semi-transparent, the skin may be natural, or congested and blue.

Treatment.—Protect the growth of the tumor by gutta-percha or leather moulded to the part, or pressure may be made by an air-pad, or by painting with collodion. When the growth is rapid, and there is fear of its giving way, tapping with a small trocar may defer a fatal result if pressure be afterwards applied. Inject tincture of iodine, or cut the tumor off at its base with a clamp gradually tightened.

INDEX.

THE END.

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